

# CHILDREN INNOVATION FESTIVAL 2020



50

YOUNG INNOVATORS  
CHANGING INDIA



gusec



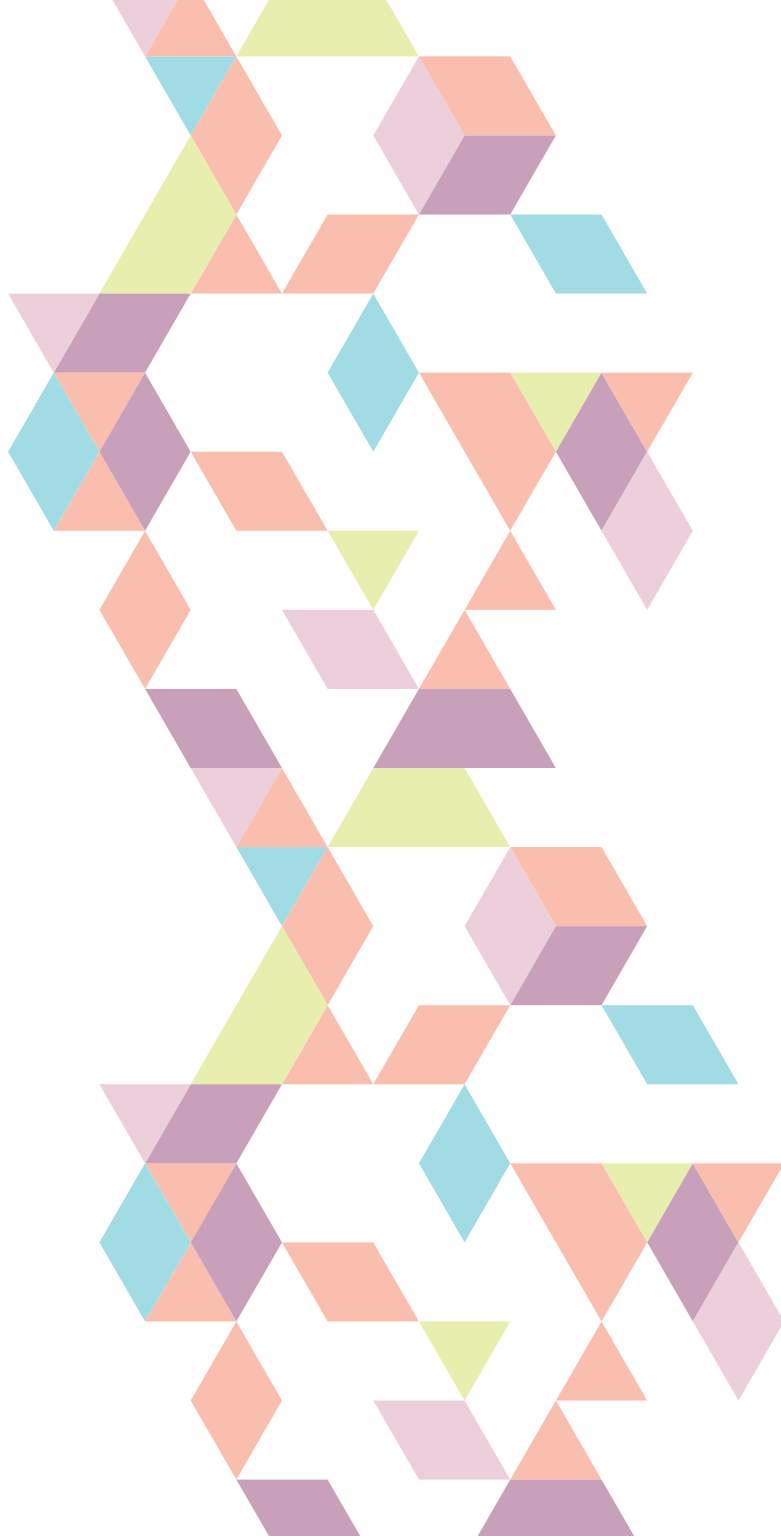
unicef  
for every child

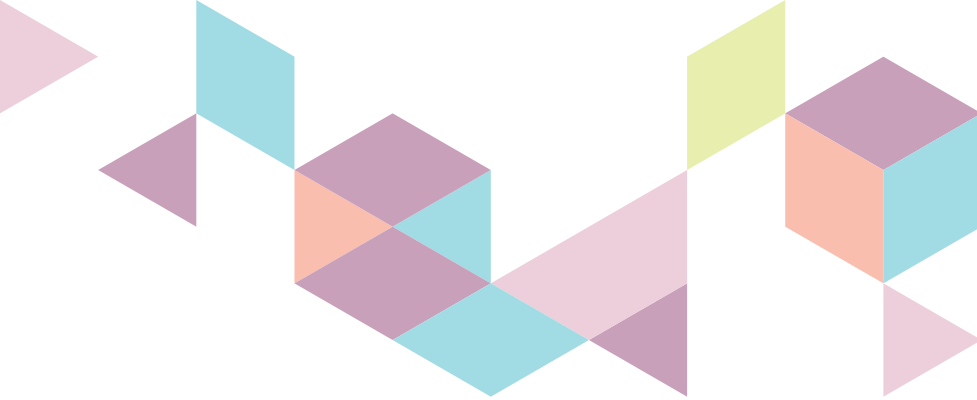
# About CIF

## 2020

The Children Innovation Festival is a GUSEC flagship program, organised in partnership with UNICEF. This is the second edition of the event, with the previous edition receiving an immense response that led to the incubation of 30 startups founded by school children. Moving forward with its vision of giving children the opportunity to innovate, GUSEC & UNICEF inaugurated CIF 2020 on the very occasion of World Children's Day - November 20, 2020.

The CIF offers a platform for children-led innovations and is a jointly coordinated, one-of-its-kind attempt by GUSEC & UNICEF to encourage children to apply their critical thinking and problem-solving skills to innovate. In furtherance of its belief that **'one cannot put an age bar on innovation'**, the CIF aims to scout and guide children between the ages of 13-18 years and support them as they carve their way into the entrepreneurial ecosystem.





## Dr. Himanshu Pandya's Message

*Vice-Chancellor, Gujarat University*

Our vision, as stakeholders of the education ecosystem in Gujarat, has always been that of empowering students in every sense of the word, and we have tried to establish the same through GUSEC. With a synergetic alliance from UNICEF Gujarat, we have gone a step further to include and equip this vision to the level of school children through the Children Innovation Festival.

Children are not just the future of the world, but when given the opportunity, can also prove to be a fresh source of ideas. We believe that the earlier we push the boundaries of possibilities for them, the higher they can rise and aspire. The children of today are more self-aware of problems in the world and have a lot to offer in terms of solutions, with the CIF statistics bearing witness to that fact. The first edition of CIF reached out to as many as 979 children and ended up pre-incubating 30 ideas by school children and CIF 2.0 reaching an even wider audience - with more than 2100 children from across the country registering as many as 1600+ ideas.

I congratulate GUSEC and UNICEF Gujarat for coming together for this noble initiative which shall undoubtedly go a long way in fostering innovation in classrooms.

# Dr Laxmi Bhawani's

## Message

*Chief of UNICEF Gujarat*



The year 2020 has been a challenging year for all of us especially the children. The coronavirus pandemic has laid bare the deep inequalities in our societies that leave some children far more at risk than others. At this critical moment in history millions of children are missing out on basic healthcare, cut off from education, and left without protection simply because they were born into poverty.

The COVID-19 crisis is a child rights crisis. The costs of the pandemic for children are immediate and, if unaddressed, may persist throughout their lives. Children and young people will be living with the impacts of this pandemic and how the world chooses to respond now will have an impact for years to come. They must be included in decisions that affect their future. This is a time for generations to come together to reimagine the type of world we want to create. The global community must listen to children and young people, working alongside them to design a better future.

The second edition of the Children Innovation Festival (CIF) 2020 gave us the opportunity once again to listen to the children. Children and young people have the ideas and the talent to come up with solutions to some of the

biggest challenges facing humanity. All we need to do is give them a chance.

CIF 2020 encourages the creativity and spirit of innovation among children and is organized by the Gujarat University Startup and Entrepreneurship Council (GUSEC); Departments of Education, Science & Technology, Government of Gujarat; and the Atal Innovation Mission in collaboration with UNICEF. The participating children showcased their grit, ingenuity, and curiosity to address local and global challenges including those thrown up by COVID-19. The top 50 innovative ideas are a beacon of hope to guide our way and reimagine a better future.

I urge all participating children to come together as a collective force, and keep innovating, ideating, nurturing and exploring ideas that can make a real difference in the lives of people.

I thank all partners for supporting this initiative. Special thanks to the GUSEC team and Gujarat University for their collaboration and taking the CIF 2020 forward despite the challenges and limitation posed by COVID-19.



TOTAL PARTICIPANTS

**2135**

TOTAL APPLICATIONS

**1610**

GEOGRAPHICAL DISTRIBUTION

States  
and Union  
Territories  
**29**

YOUNGEST INNOVATOR

**7-YEAR-OLD**

**GENDER RATIO**

**38% FEMALE**

PARTICIPANTS SENSITIZED

REGISTERED 3301

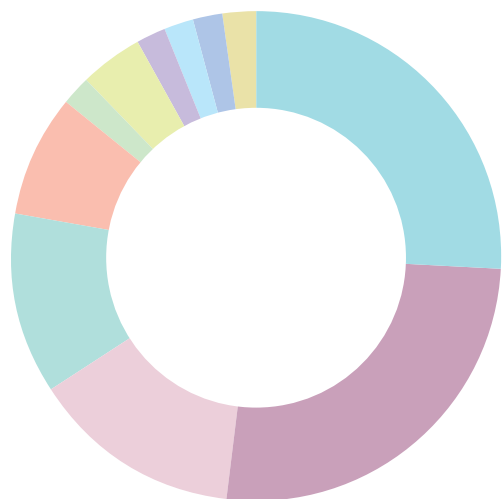
ATTENDED 2012

TOTAL SOCIAL MEDIA REACH

**12,34,523**

# TOP 50

## Participants and their sectors



**26%**

Environment, Climate Change, Sanitation, Energy, Power and Green-tech



**26%**

COVID-related Innovations



**14%**

Healthcare including Mental Health



**12%**

Agriculture and Rural Development



**08%**

Education, E-Learning, Skilling



**02%**

App / Web Platform



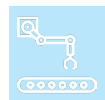
**04%**

Waste management



**02%**

Infrastructure and Transportation



**02%**

Robotics / Artificial Intelligence



**02%**

Pharmaceutical



**02%**

Aid for Disabled



# Timeline

1. Applications Open [November, 2020]: The applications for CIF 2.0 opened on November 20, 2020, alongside the launch programme of the CIF. Initially open until December 14, the application window was extended up to December 17, 2020 in order to accommodate the overwhelming response of children from across the country. The application process is not sector specific but invites children to apply with all kinds of innovative ideas and startups.
2. Announcement of Shortlisted participants [December, 2020]: In a Mega Bootcamp dated December 28, 2020, a list of shortlisted ideas out of a total of 1610 ideas submitted was announced. These shortlisted ideas then progressed to the next stage of the programme, where they attended a 4-day special bootcamp to help them portray their idea better.
3. Submission of Video Pitch [January, 2021]: After the 4-day special bootcamp that lasted from January 11-16, 2021, shortlisted participants were required to submit a video pitch for their idea on or before January 24, 2021. Final evaluations were done on the basis of the pre-defined criteria set for the video pitch evaluation.
4. Announcement of Final Results [April, 2021]: After a thorough review of the video pitches submitted by the shortlisted participants, 50 ideas were selected for pre-incubation at GUSEC.



# Overview of Outreach Activities



In order to make sure that the initiative got the maximum possible exposure and penetration across the state, the following tools were deployed as part of the outreach activities:

**Social Media posts** (Facebook, Twitter, Instagram etc.)

- To create and maintain the curiosity and engagement levels of children and parents across the state as well as keep other stakeholders posted about the progress of the event.

**Emails to Principal of schools of Gujarat** - To ensure maximum support and coverage of the event across all the schools and maximum children participation across the state.

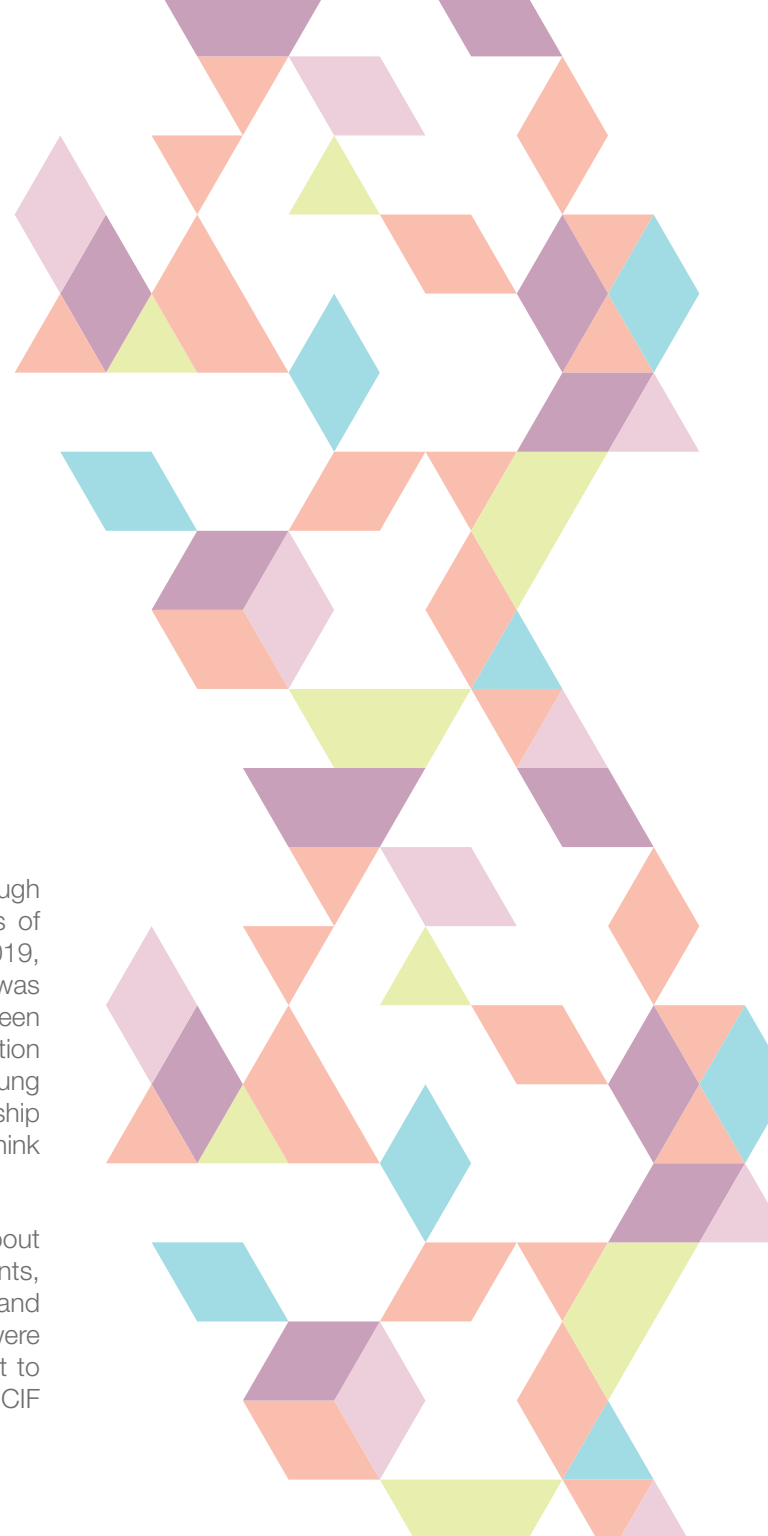
**Promotion through GUSEC website** - All the details pertaining to CIF was put up on our website as a lot of people keep visiting our website to keep a tab on what GUSEC is up to at any given point of time.

**Letter from Gujarat Board to all schools of Gujarat** - To spread the awareness of the initiative

**SMS** - To ensure that we reach the maximum possible number of students and their parents for the initiative

**Posts on partner pages** - As part of the promotional activities to address the maximum people

**Posts on GU pages** - To utilize the huge network of Gujarat University to create student awareness for the CIF



# Sensitisation

## Activities / Programmes

To ensure that our message for young innovators got through to most children, GUSEC & UNICEF conducted a series of outreach activities with the children innovators of CIF 2019, and worked together to ensure that the Festival's vision was relayed to a maximum number of children innovators. Between December 02, 2020 - December 16, 2020, four sensitisation sessions were organised with an objective to introduce young innovators to the concepts of innovation, entrepreneurship and startups; and ways that could inspire children to think innovatively and turn their ideas into scalable businesses.

The sessions were also envisioned to tell the audience about the CIF, the benefits it would provide to selected participants, and how children could apply with their innovative ideas and turn them into viable businesses. A couple of sessions were also conducted in Gujarati and Hindi in order to reach out to native speakers and bring more children into the fold of the CIF vision.





## Bootcamp & Mentorship Sessions

On December 28, 2020, GUSEC & UNICEF organised a Mega Bootcamp to introduce school children to ways they could innovate

The Bootcamp saw the participation of about 800 children from across the country and was organised in the presence of Rahul Bhagchandani, Group CEO, GUSEC; Moira Dawa, Communication Specialist, UNICEF; and Kumar Manish, State Consultant, YuWaah! Foundation.

The Bootcamp encompassed extensive and thorough mentor sessions that were designed to groom young innovators and facilitate them with the necessary guidance on startups and entrepreneurship. They introduced school children to the basic concepts and segments of entrepreneurship and encouraged them to focus on innovating. In another session, Kumar Manish introduced the young innovators to the essential steps to successful innovation where he spoke about topics ranging from idea generation and mobilising to commercialisation and implementation.

At the end of the Bootcamp, 200 ideas were selected to advance to the next stage of the Festival, where they were inducted to the particulars of entrepreneurship and innovation via a special three-day Bootcamp with experts from the national and international innovation circuit.



## CIF Three-Day Special Bootcamp

### **January 11, 2021**

Testing their Idea, Problem identified

#### **Experts Present: Rohit Swarup, Romitha Swarup**

Topics Discussed: Introduction to Structured Approach to Innovation, Listening to people's needs through Empathy Mapping

On the first day of the bootcamp, GUSEC invited Rohit Swarup & Romitha Swarup who spoke to the children about testing various facets of the idea that they applied with. The children learned to test their idea and define their problem statements. They also learned about the concept of empathy and how important it is in the process of innovation.

### **January 12, 2021**

Enhancing their Idea to the creation of Solution & Creation Business out of the Solution

#### **Experts Present: Rohit Swarup, Lalon**

Topics Discussed: Generating Creative ideas for a Novel

A three-day workshop was organised to help the shortlisted participants of the CIF sharpen their skills and polish their ideas.

Solution, Prototype Development & Testing

In the second session of the CIF bootcamp, Mr Rohit Swarup spoke to children about problem writing and generating creative solutions for problems through the 'SCAMPER' technique. He was followed by Lalon talking to the participants about prototype development and testing.

### **January 13, 2021**

Implementation the Business, Your Story & Views

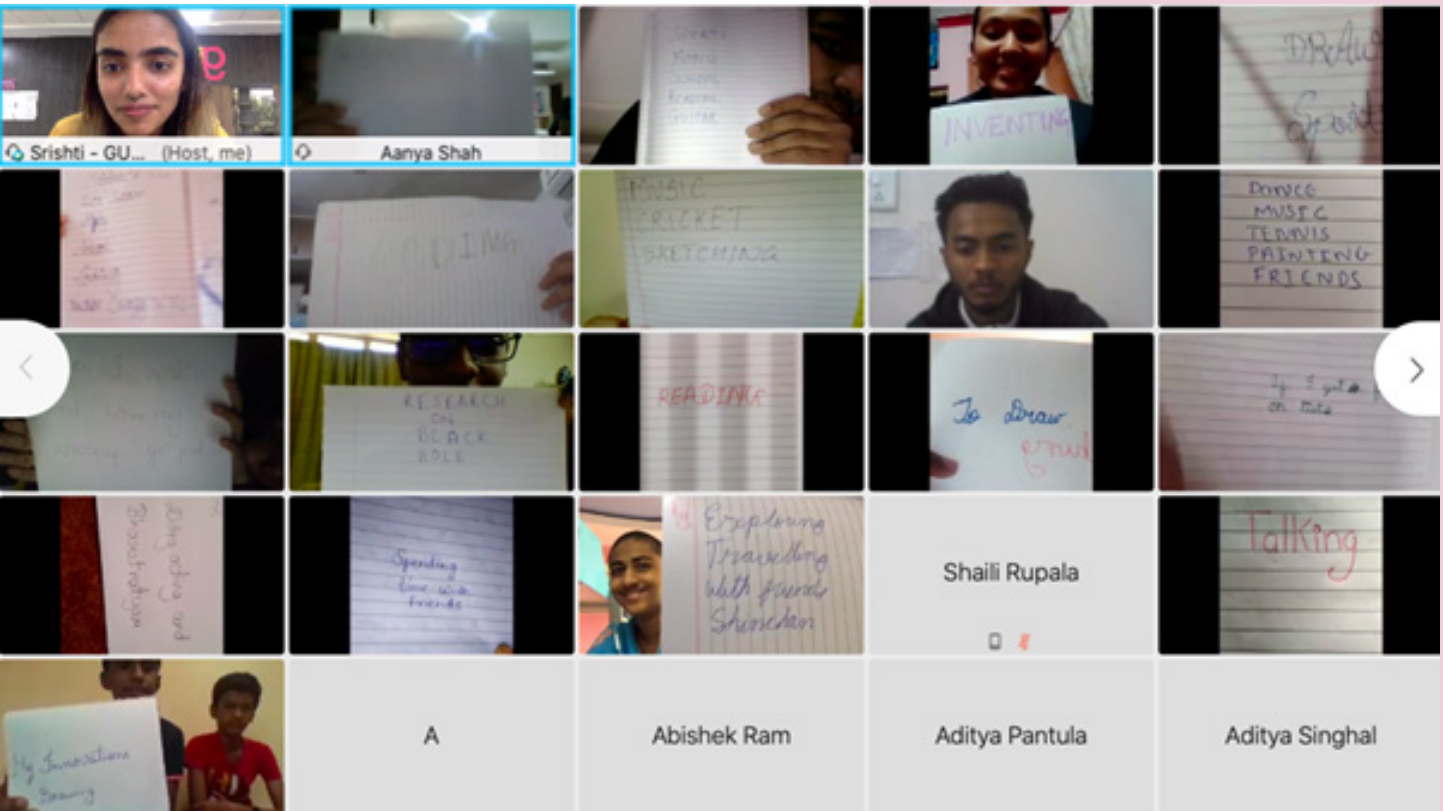
#### **Experts Present: Prof Ram Kumar, Rohit Swarup, Prof Leland Hayes**

Topics Discussed: Creating Innovative Businesses out of an Idea, Business Model & Narrating your Story

The third and final session of the bootcamp saw Mr Ram Kumar talking to the participants about how to convert their innovative ideas into viable businesses. Prof. Kumar's session was followed by Mr Rohit Swarup & Prof. Leland Hayes talking about creating a narrative around one's innovative idea.

# Children Innovation Festival

## Q&A & Interaction Session



\*A still from the CIF 2.0 Interactive session, where children tell each other what activities makes them lose track of time.

To ensure that the children could leverage most of the expert sessions, GUSEC organised a special Q&A session on January 16, 2021, which not only helped children get all their queries answered, but also allowed them to get to know each other better through a series of activities organised during the session.



50

**YOUNG INNOVATORS  
CHANGING INDIA**



01

**Names of Founders:** Saksham Solanki, Harsh Kumar and Mantasha Imam

**Startup Name:** 7DCM: A step into new era of composting

**Standard:** XIth

**School:** Kendriya Vidyalaya Number 2 EME

**City:** Vadodara

# Putting Biodegradable Waste To Better Use

FOUNDER'S MANTRA

“ It is what it is. ”





The startup is related to a product, a simple machine that can convert biodegradable waste into compost in just seven days.

Saksham was asked by his school to work on something related to a green solution as a part of his project. He and his partners started experimenting with aerobic bacteria and found the perfect solution. And this is how the startup was born.

The trio aims to bring change by putting biodegradable waste to better use by converting it into compost rather than throwing it away and adding to the problem of managing waste. They believe it will also help more people take up gardening.

Saksham says he sees their product being used by millions of people in the coming years and is hopeful of bringing a major change in the world.

For the young innovator, the most exciting moment of his startup journey was when the solution worked. The most difficult part is the financial issues, but he and his partners have so far managed to somehow overcome the challenge.

Going ahead, the startup wants to solve other issues related to agriculture through different solutions and also aims to minimize the cutting of trees.

When feeling uninspired, Saksham says he talks to people who care about him.

The youngster says more children can be encouraged to become innovators by “showing them what can be achieved through innovation.”

This is Saksham’s second year in CIF and he describes his journey with the words “I am loving it.”



02

**Founder's Name:** Aman Sa

**Startup Name:** Alris

**Standard:** XIIth

**School:** Army Public School

**City:** Kolkata

# Busting Crime In Real-Time For Safer Cities

## FOUNDER'S MANTRA

“ I want to put a ding  
in the universe. ”

- Steve Jobs



Alris analyzes real-time footage from a camera source to monitor and derive valuable insights and this augments a proactive environment that is safer and data-driven.

Aman got the idea of Alris after studying the ever-increasing number of crimes. “The unpredictability of crime is increasing as more of it occurs in areas typically deemed safe,” he says. “Should we allow this to be the new normal? I imagined a future where the entire city is monitored by responsible AI, providing authorities with the tools and intelligence to stop atrocities and virtually all crime in real-time, and thus Alris was born.”

Alris, Aman says, is an ideal solution to augment current public safety systems. It will enable machines to interact naturally with people, data and the environment, creating more intuitive interactions and extending what either humans or devices cannot do on their own.

Aman admires Elon Musk, an innovator, thinker and doer and has a passion for thinking big and executing it. For inspiration, Aman reads articles about successful startups. He says this gives him the zeal to look forward to a day when his startup’s name is on the list. “It inspires me to believe in myself and continue the hard work.”

He also wants to focus on waste management as recycling will help the environment and generate revenue.

He says he learnt a lot from the CIF Bootcamps. “It has helped me a lot in thinking along lines which I couldn’t earlier.”

According to Aman, the whole startup journey has been exciting, while the most troublesome part about the idea was to cut down costs.



03

**Founder's Name:** Rishabh Raj

**Startup Name:** Automatic Mental Stress Detector & Reducer Device

**Standard:** XIth

**School:** DAV Public School

**City:** Muzaffarpur

# A Device To Detect and Reduce Mental Stress

## FOUNDER'S MANTRA



Do something today  
that your future self  
will thank you for.





The Automatic Mental Stress Detector & Reducer Device is a device that can detect mental stress and is also equipped to reduce it.

Seeing many people facing mental health issues because of stress and people losing their lives due to stress inspired Rishabh to work on a device that can detect and help reduce stress.

Rishabh says his innovation can help people under stress and the one who are living stressful lives to get rid of the mental stress.

Rishabh says the most exciting part of his startup journey was the thought that his device will be completed and actually work one day. The young innovator had to face several problems while working on the device's prototype, which he identifies as the most difficult part.

The young innovator sees his device helping millions of people leading better lives by reducing and gradually overcoming mental stress. He also expects his startup to save many lives that would otherwise be lost to stress.

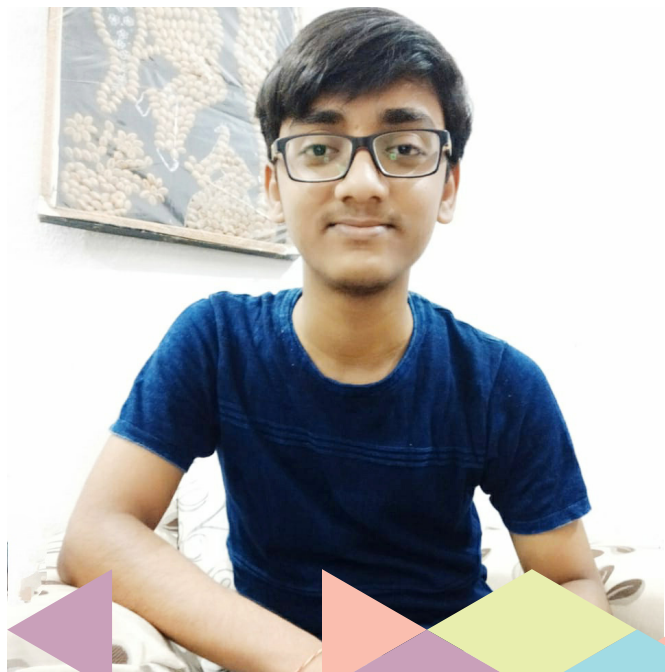
The Bihar boy's favourite innovators are former president Dr APJ Abdul Kalam and Albert Einstein.

When feeling uninspired, Rishabh says he watches programmes and documentaries about the struggles of famous scientists and the failures they had to endure before they finally met with success.

In addition to the stress detecting and reducer device, Rishabh is also currently working on a heat-related theory.

Rishabh believes more children can be encouraged to become innovators through platforms like CIF, which give them an opportunity to showcase their innovations.

"My journey with CIF has been great. I have learnt many new things and have also gained invaluable experience," he says.





04

**Founder's Name:** Akshat Kulshreshtha  
**Startup Name:** Biodegradable Inirritable Gloves  
**Standard:** IXth  
**School:** St. Teresa's School  
**City:** Jaipur

# Eco-Friendly And Biodegradable Gloves

## FOUNDER'S MANTRA

“Imagination is more important than knowledge.”

- Albert Einstein



The start up is working on eco-friendly & skin friendly as well as eco friendly glove which can be used again and again because of its sanitization system.

Frequent hand washing has been identified as one way to keep the Coronavirus at bay, and this is what inspired Akshat to work on the idea.

“I wanted a Corona-free clean environment, so this idea of having a biodegradable glove with the inbuilt sanitising system came up,” he says. In the next few years, Akshat sees his startup achieving new heights with demand for biodegradable gloves rising in the post-Covid-19 era.

The young innovator says it was exciting to develop the biodegradable polymer. The tricky part was installing a sanitiser filled stripe within the glove that would release sanitiser and sanitise the whole glove.

Walter Hunt is Akshat's favourite innovator. “He was the inventor of the safety pin in 1849 and was known for his sharp sense of observation. He also invented many other things,” Akshat says.

When feeling down, Akshat thinks about problems present in the world which are more significant than his problems and tries to find solutions. “My mother also inspires me,” he says.

Going ahead, Akshat also wants his startup to work on addressing problems such as energy shortage, waste management and wastewater treatment and to usher in a disease-free environment. Organizing science fairs, competitions and visits to Science museums should attract children towards science, says Akshat, who has written a book, “Scientoonics: The factbook.”

“Use fun and humour to make science attractive to children”, he advises. Akshat thanks CIF for all the support and the opportunity the platform provided to showcase his idea to the world.



05

**Founder's Name:** Atharv Shah

**Startup Name:** Cement From Waste

**Standard:** VIIth

**School:** Ahmedabad International School

**City:** Ahmedabad

# A Cement-Like Product From Waste

## FOUNDER'S MANTRA

“ Act as if what you do makes a difference. It does. ”



The startup's idea is to make a new product from plastic waste and glass bottles that can be used in place of cement in construction and help in lowering the waste generated.

The continuing rise in pollution levels and the absence of ideas to make better use of waste materials is what inspired Atharv's idea. The young innovator aims to devote his time to research to develop an environment-friendly process to make a cement-like material through effective reuse of plastic and glass waste and contribute to saving the environment.

For Atharv, the most exciting part of the startup journey was the research to find a workable model. In contrast, the most difficult part was convincing others, especially family members and friends, on the workability of the idea. In a few years, the youngster sees his startup successfully creating a new cement-like product that will be environment-friendly and a new and effective option for the construction industry.

The Ahmedabad boy says Apple founder Steve Jobs is his favourite innovator. "He created something different for the benefit of people at large," he says about Jobs.

When feeling uninspired, Atharv says he spends time researching on various online platforms and discussing different topics with family and experts to clarify his doubts.

Going ahead, he also wants to work to address problems such as corruption, women's abuse, child labour and poverty.

"Very inspiring and encouraging," is how Atharv describes his journey with the CIF. He says more children can be encouraged to become innovators by providing them opportunities to participate in educational events and platforms like CIF.



06

**Founder's Name:** Hemesh Chadalavada

**Startup Name:** ConsultFix

**Standard:** IXth

**School:** Jubilee Hills Public School

**City:** Hyderabad

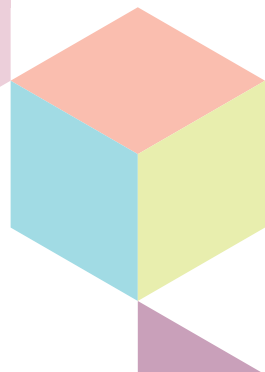
# Allowing Experts, Mentors To Offer Services Anytime From Anywhere

## FOUNDER'S MANTRA



There is only one  
good, knowledge and  
one evil, ignorance.

- Socrates





ConsultFix is an online consultation platform that helps experts and consultants set up their businesses online.

Finding experts or mentors for online consultation is not easy and it is also not feasible for everyone to have their own site. Finding a solution to this problem is what inspired Hemesh to found ConsultFix, an appointment scheduling app that lists services and details, and allows people to offer their services anytime and from anywhere.

The most exciting part of his journey is the time he spends talking with people and receiving their feedback, whereas the most challenging part is the hours he has to spend to find bugs and fix them.

Hemesh says he really admires Elon Musk and draws inspiration from his work at PayPal, Tesla and SpaceX.

Going ahead, ConsultFix aims to emerge as the preferred tool for even experts to schedule their appointments and wants to expand its offerings to face-to-face consultation. Hemesh also wants to help experts and mentors with SEO, content writing and more to help them grow their businesses.

When feeling low, Hemesh says he draws inspiration by looking at useful and innovative projects and web applications.

To encourage more children to become innovators, Hemesh believes they must be made aware of the power of innovation, how it can change lives and most importantly that innovation is not as hard as they may think.

The young innovator says his journey with CIF has been “really amazing” and he loved the session where they were taught how to innovate and how they could bring a positive change to people’s lives.



07

**Founder's Name:** Priyancy Gadhiya

**Startup Name:** Eco-friendly Hair Dye From Mango Seeds

**Standard:** IXth

**School:** Shree Swami Vivekananda Vinay Mandir High School

**City:** Junagadh, Gujarat

# Eco-friendly Hair Dye From Mango Seeds

## FOUNDER'S MANTRA



We cannot become  
what we want by  
remaining what we are.



The startup wants to manufacture eco-friendly and natural hair dye using non-toxic elements from herbal sources like mango seeds and other natural ingredients. This hair dye will instantly colour the hair and make the hair strong and smooth without side effects. The ingredients are mango seeds, ginger leaves, 'hirakasi' and water.

Priyancy was inspired after seeing how prolonged use of synthetic hair dyes led to hair loss, edema, erythema and even skin cancer symptoms.

She decided to develop a process technique to produce a safe, non-toxic, eco-friendly natural hair dye using natural ingredients such as mango seeds, scrap leaves and gall leaves as bulking material. She makes sure no heavy metal salts are used in the process.

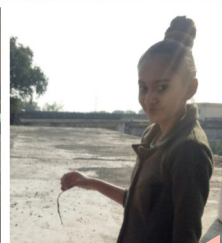
For the young innovator, her science and mathematics teacher Vaishnav Meera is her favourite and best innovator.

"My teacher does a lot of activities using things from nature. Also, the toys my teacher makes get selected for the National Toy Fair and I thank my teacher for guiding me for this project," Priyancy says.

When feeling down, Priyancy spends time on science experiments. She also reads books on nature and takes a walk in places with greenery. "I note down questions and get solutions from my teacher," she says.

The Junagadh girl wants to continue with her experiments and also wants to work hard to make her efforts successful in the long run.

According to Priyancy, talking to children and answering their questions and providing them a platform to showcase their ideas will encourage them to become innovators. She says her journey with CIF has been good.



08

**Team Members:** Ishita Mittal, Agamya Jain

**Startup Name:** Eco-friendly Bicycle

**Standard:** VIIIth

**School:** Amity International School

**City:** Ghaziabad

# Peddalling Away To Reduce Air Pollution

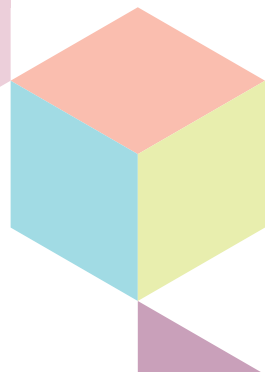
## FOUNDER'S MANTRA



Winners are not those  
who never fail, but  
those who never quit.



- Dr APJ Abdul Kalam



Eco-friendly bicycle is a concept that can reduce carbon footprints. The bicycle works on the principle of conversion of energy and operates an air purifier fitted on it.

The idea for an eco-friendly bicycle was triggered by the sight of a parked bicycle in the backdrop of most people using fuel vehicles even for short distances.

Founders Ishita and Agamyia say their startup aims to replace normal bicycles with eco-friendly ones. It wants to change people's mindset so they start using eco-friendly bicycles for short distances.

The most exciting part of developing their idea for the duo was creating a unique logo and tagline and designing the prototype. The difficult part was to make a working prototype and convincing people to ride it.

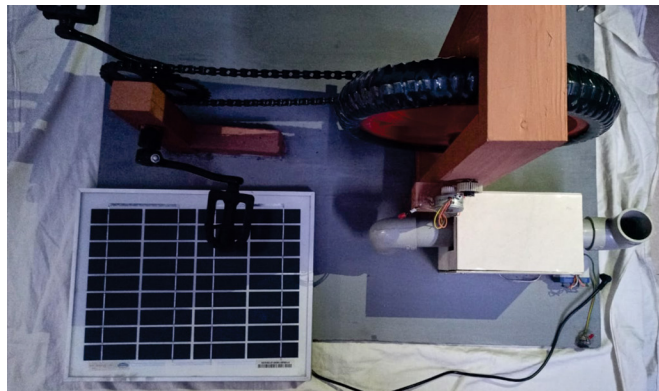
In a few years, Ishita and Agamyia see their eco-friendly bicycles being used widely, which they say will help reduce pollution and help improve riders' health.

Ishita says Dr APJ Abdul Kalam is their greatest inspiration and favourite innovator for his immense contribution to science and because he truly ignited many young minds.

When feeling uninspired, Ishita says they read about the failures of famous scientists and innovators which encourages them to keep going. The two also break down their goals into small achievable steps.

Space debris, water pollution, unemployment and poverty are the other problems the duo wants to solve in the future.

More children can be encouraged to become innovators by making experiments and activities a part of the curriculum and by organising science-related competitions, they say. "Our journey with CIF has been very informative and enjoyable," they say.



09

**Founder's Name:** Shaili Kirit Kumar Rupala

**Startup Name:** Electric Tricycle

**Standard:** Vth

**School:** Maharshi English School

**City:** Halvad, Gujarat

# Doing Away With Manual Pedaling The Electric Way

## FOUNDER'S MANTRA

“ Everything is  
possible if you  
believe in yourself! ”



Shaili and her innovator friend have converted a tricycle into an electric tricycle. Specially-abled people can use this tricycle without resorting to the physical pedaling of the tricycle.

This e-tricycle is very cost-effective, environment- friendly and is likely to prove a boon to all those disabled persons who presently use the conventional tricycle where they have to exert physical pressure to pedal.

Also, the e-tricycle is not expensive and requires very low maintenance. It fundamentally works on an electric battery which results neither in any air pollution or noise pollution. This e-tricycle is going to make rides easy for all disabled people irrespective of age.

Shaili's source of inspiration is her grandfather.

"He is always busy working on innovative things and he has also invented many scientific and mathematical models," Shaili says.

Whenever feeling down or uninspired, Shaili prefers to talk to her elders and take guidance from them to boost up her morale.

While describing her journey with CIF as "great," Shaili, through her startup, wants to extend her idea to other modes of transport like fuel-driven two-wheelers and four-wheelers. This, she feels, will result in huge savings in fuel bills.

She says one of the most difficult parts was to find an electric motor. "Later, I used a car wiper motor and I was excited about how it will work," she recalls.

She feels proper guidance and encouragement will lead more children to become innovators.



10

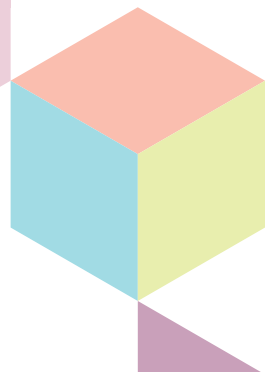
**Founder's Name:** Abhay Kumar Das  
**Startup Name:** Food-Mate  
**Standard:** XIIth  
**School:** Kerala Samajam Model School  
**City:** Jamshedpur

# A Mate For Zero Food Wastage

## FOUNDER'S MANTRA



Innovation is all about exploring new and emerging technology and doing things that no one has done before.





Food-Mate is an idea that aims to prevent food wastage by enabling users to donate surplus food. It also facilitates the use of spoilt food for making organic fertilizer.

The plight of poor people, who were struggling for two meals during the lockdown and seeing his mother throw away stale chapattis and bread, is what inspired Abhay's idea of Food-Mate.

The innovator believes the application, through which users can donate surplus food, can help achieve his goal of 'zero food wastage.' The collected fresh food can feed the hungry and the waste food can be converted into organic fertilizer. "There is a huge demand for organic fertilizer due to the growing popularity of organically grown foods," says Abhay.

For the Jamshedpur boy, the eye-opening facts he learnt while researching for Food-Mate were the most exciting part of his journey. The most difficult part was coding the app's algorithm without expert support while he was in class XIth.

Abhay sees his idea being implemented on a national level in a few years and collaborations with NGOs, orphanages and old age homes to supply the collected food and farmers' organizations to convert waste food into fertilizer.

Abhay's favourite innovator is Elon Musk and he believes he and the billionaire share many character traits. When feeling uninspired, he keeps himself busy with his studies and learning more about the world's problems.

Going ahead, Abhay also wants to work on tech solutions to enhance women's safety and curb crimes against women. Abhay says his journey with CIF has been "incredibly awesome" and believes children can be encouraged to become innovators through exposure to the world of innovation.



11

**Founder's Name:** Khyat Vishal Narola

**Startup Name:** Footpath From Plastic Waste

**Standard:** Illrd

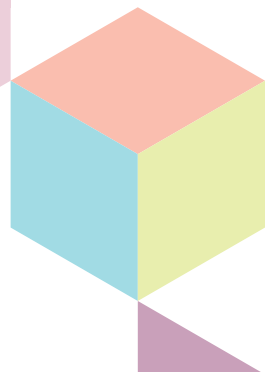
**School:** Gajera International School

**City:** Surat

# Building Footpaths From Plastic Waste

## FOUNDER'S MANTRA

“ In learning you will  
teach and in teaching  
you will learn. ”



The startup's idea is to use plastic waste to construct footpaths, which will make the footpaths colourful and help reduce plastic waste.

The 10-year-old says his father explaining to him how plastic being a non-degradable item harms the environment is something that inspired him to look for ways to reuse the plastic waste and thus helping the earth.

Khyat says his idea can help authorities reduce the cost of building footpaths, besides reducing the quantity of waste generated, which can help in reducing pollution.

The youngster says his target is to be at the top in the industry in five years. "I am only 10-year-old and I was not sure where to start. That was the most difficult part of the startup journey," the innovator says, adding that he became passionate to complete the project once he started it.

Khyat says he is working on a project with his parents to help students get textbooks and study material for free.

The youngster says he follows Ritesh Agrawal, who built his company Oyo from scratch.

When feeling uninspired, the Surat boy says he talks to his parents to figure out what is holding him back.

"I also try to look for the answers on the internet or platforms like YouTube," he says.

Khyat believes monthly sessions in schools where students can be explained what innovations mean and interactions with real innovators can encourage more children to become innovators.

He describes his CIF journey as good, but regrets he hasn't met the GUSEC team in person because of the pandemic.



12

**Names of founders:** Navya Aggarwal, Manya Kapoor, Kuhu Bhatt and Krish Sharma

**Startup Name:** Führer

**Standard:** IXth

**School:** Amity International School, Sector 46

**City:** Gurgaon

# Making Eco-Friendly And Affordable Wipes

## FOUNDER'S MANTRA

“ Practice like you have  
never won. Play like  
you have never lost. ”

- Michael Jordan



The startup aims at making eco-friendly, biodegradable and affordable wipes for everyone. The young innovators at Führer noticed that a majority of wipes in the market are expensive. Also, these wipes use chemicals.

Führer was founded with an idea to produce wipes that are eco friendly and also have minimal chemicals.

The young innovators also want their startup to inspire others to make such environment-friendly products and help in making the planet a better place to live.

In the next few years, Navya expects her project to be up and running and eco-friendly wipes becoming available to consumers.

Thomas Alva Edison inspires Navya and her team of innovators. “It is because of Edison we lead such a comfortable life. He holds a world record of 1,903 patents which is commendable,” she says.

Navya says she turns to her mentor for inspiration. “She has been accommodating throughout our project and has been our guiding force.” Subsequently, the startup also wants to work on Covid-19 solutions.

Another area it would like to work is animal conservation as they believe that failure to protect the other species on the planet will eventually lead to our own destruction.

Navya says her journey with CIF has been incredible so far. “The webinars that they held have been extremely illuminating and have helped me a lot.”

The Führer innovators believe that if help is extended to children in understanding the problems they are facing, they will be able to understand the need for solving them, which will inspire them to become innovators.



13

**Founder's Name:** Ayan

**Startup Name:** Gas geyser/stove

**Standard:** Xth

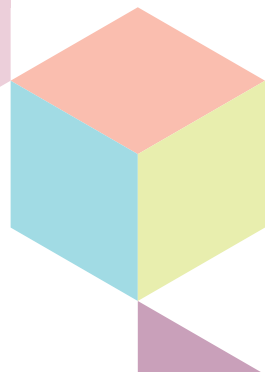
**School:** Kali Ram DAV Public School

**City:** Safidon, Haryana

# A Friendly Gas Geyser/Stove For Kitchen

## FOUNDER'S MANTRA

“ Save energy  
save money. ”





The startup aims to provide an efficient and easy to use gas geyser/stove in the kitchen so that hot water is available whenever needed. Hundreds of thousands of kitchens across India do not have this facility, and women have to face a lot of trouble and inconvenience to source hot water.

Ayan was inspired to work out a simple and easy to use gas geyser/stove after seeing his mother use cold water for washing clothes and cleaning utensils in the harsh winter season of north India.

“I want to see and ensure that all mothers get hot water easily for these daily chores so they don’t have to suffer during winters,” Ayan says.

In the next few years, the young innovator wants to see his startup idea becoming a reality in most of the world’s kitchens. According to Ayan, developing a suitable heat exchanger was the most challenging part of developing his idea.

He says his father is his favourite innovator “because he works out a good solution for problems we face in daily life.” Going ahead, Ayan is hopeful and optimistic about building oxygen concentrators using parts of a window AC.

Whenever he feels uninspired, the youngster says he talks to his family.

He says more children can be encouraged to become innovators by highlighting their ideas and making innovation laboratories compulsory in schools. Describing his journey with CIF as good, Ayan says, “CIF selected my innovation at number 39 in a list of 200 innovations. After that, I attended three webinars, and now I have been informed CIF has selected my innovation in best 50 innovations.”





14

**Names of Founders:** Aabhas Senapati, Chetan Naik, Sivan K

**Startup Name:** Green Joy

**Standard:** XIth

**School:** Zydus School For Excellence

**City:** Ahmedabad

# Helping People Connect better with Nature

## FOUNDER'S MANTRA

“ Everything should be  
made as simple as  
possible, but not simpler. ”



Green Joy is a unique urban gardening solution aimed at tackling mental health issues by helping people connect better with nature in a gamified way.

The idea for the solution was inspired by the pandemic times, when Aabhas, Chetan and Sivan saw everyone being socially isolated and disconnected from nature, leading to burnouts and mental health issues.

Aabhas believes Green Joy will have healing effects and help tackle burnouts by making people socially and emotionally connected to nature, and making them aware of their environment.

The most exciting part Aabhas says, was including Augmented Reality and stuff integrated with a solution so that taking care of plants is gamified, like getting points and seeing plants smile on being watered on time.

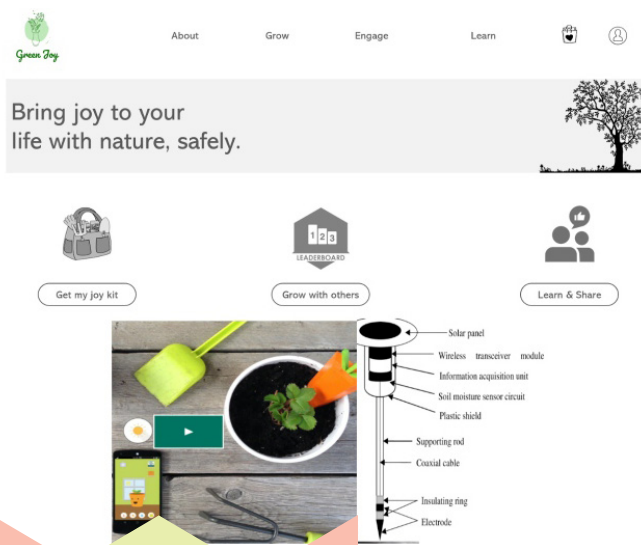
The most challenging part was building a sustainable and low-powered solution, one that helps connect with the real-world and nature, and does not end up making users more digitally engrossed.

Former President Dr APJ Abdul Kalam is one of their favourite innovators and source of inspiration.

The three budding innovators describe CIF as a fantastic platform for innovators to connect and express themselves and say, “In the next few years we see our startup impacting lives of people and helping them connect to nature.”

Some of the problems, the trio wants to work towards are Alzheimer’s, Mental Health, Climate Change, Data-Bias in Clinical Research, Emergency Safety & Accessibility of Healthcare.

On encouraging children to become innovators, they say it can be achieved by making children explore beyond academics and brainstorming about problems focusing on the ‘Why’ rather than the ‘What’ and ‘How’.



15

**Founder' Name:** Jaskaran Singh

**Startup Name:** Gutrack

**Standard:** VIIIth

**School:** Learning Paths School

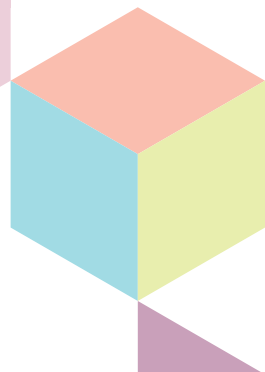
**City:** Mohali, Punjab

# An AI-Powered Innovation To Clear Sewer Blockages

## FOUNDER'S MANTRA



We cannot become  
what we want by  
remaining what we are.



Gutrack is an AI-powered innovation that can be used to clear blockages in sewers and to do away with the need for manual scavenging.

The fact that manual scavenging continues to be practiced in many states even today, and many manual scavengers lose their lives in the process inspired Jaskaran to come up with the idea of this tool.

The Punjab boy says his innovation is a simple and affordable innovation to clear blocked sewages and contribute to saving the lives of manual scavengers.

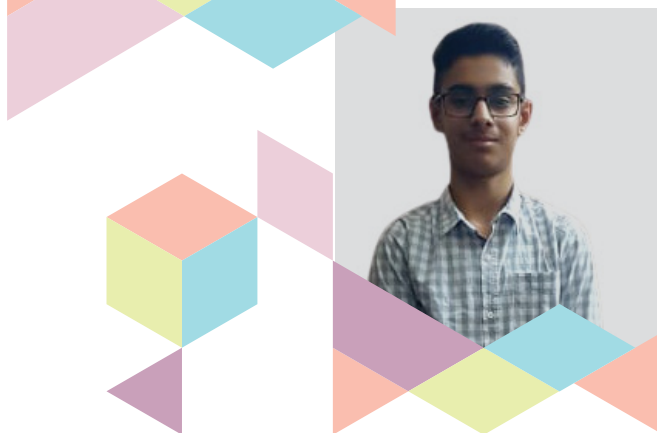
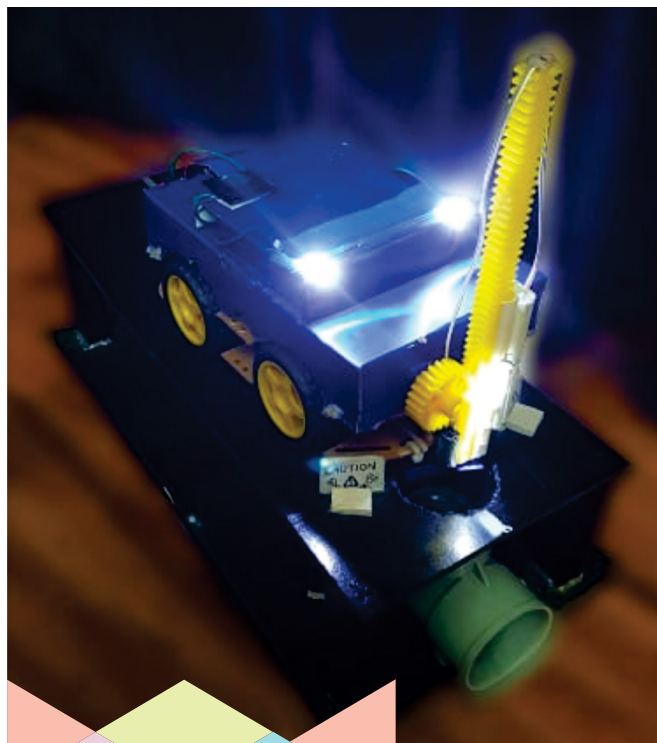
Jaskaran says prototyping was the most difficult and the most exciting part. "I made a remote-controlled prototype and a lot of parts were needed to put it together. There were multiple errors in the beginning, but by the end of the day, the prototype was ready," he recalls.

The youngster expects the idea to be developed into an actual innovation and at the production stage in the next few years. His favourite innovator is Nikola Tesla, who is credited with several inventions, including the Tesla Coil.

Going ahead, Jaskaran says his startup would also work for addressing other challenges such as pollution, traffic, hunger, plastic waste and global warming. When feeling uninspired, the young innovator says he finds inspiration in his surroundings.

More children can be encouraged to become innovators by showing them the fun of innovating and the happiness one gets upon building a working prototype, he believes.

"It has been a wonderful journey with CIF. I have learned so much while attending the boot camps, which really taught me a new way of thinking and innovating," Jaskaran says about his association with CIF.



16

**Names of Founders:** Prince Yadav

**Startup Name:** Human Holographism

**Standard:** Xth

**School:** Army Public School

**City:** Delhi (National Capital Territory)

# Exploring the human body with holography

## FOUNDER'S MANTRA



Inspect to Learn and,  
Learn to Inspect



The hologram technology works on the principle of laser emission phenomenon, including tangible interactions with aerial and volumetric graphics and produces a 3D holographic image of the region in its affinity.

Prince recalls an operation on his left limb and post-surgical removal of a protruding bone.

"I had to do an X-ray of the part and if you had an operation, you can relate to it," he says adding, "I saw patients who could not stand, but they had to get X-rays done. I could relate to this and started working to find a solution for the same."

The young innovator wants his idea to help improve the health infrastructure in rural areas and provide affordable and accessible technology. "That is my goal," he says. "This will also encourage other teenagers to think their thoughts can lead to a positive change in people's lives."

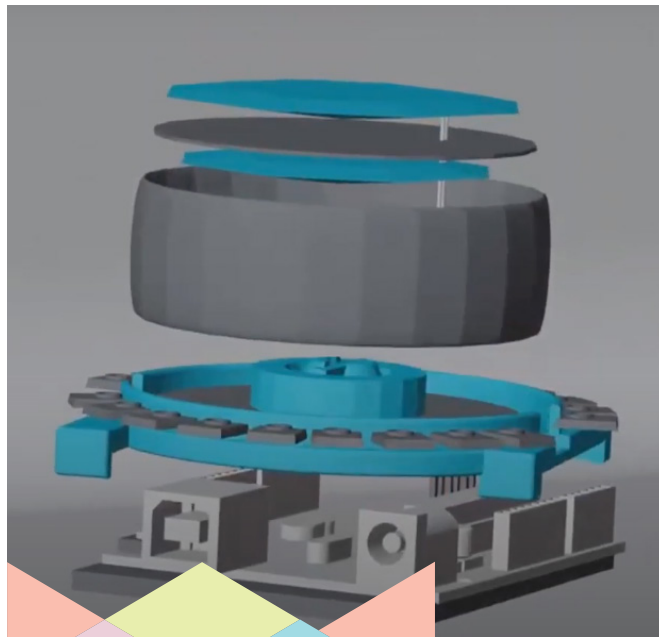
Prince, deeply inspired by Nikola Tesla, says the most exciting part of his startup was how the technology could explore the human body with more visualization.

The tricky part was developing a technology that could convert X-rays into the organ's image.

When feeling uninspired, Prince goes to the garden and sees how tiny creatures like ants help each other carry food and work tirelessly on a dedicated path.

"These little things make the mind fresh and lead me to focus better on new ideas for my startup," he says.

The CIF has provided a huge platform for young students like him to become innovators and help them in converting an idea into reality. "I am immensely thankful to CIF," he adds.



17

**Founder's Name:** Dhairya Bhatt

**Startup Name:** I-QR

**Standard:** VIIIth

**School:** Silver Bells Public School

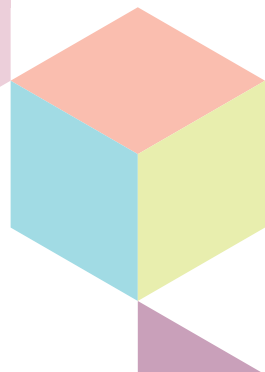
**City:** Bhavnagar

# An App For Instant Access To Students' Performance

## FOUNDER'S MANTRA



Simplicity, Clarity,  
Focus - A rule for  
all of life.





I-QR is an app that gives students, parents and teachers instant access to an individual student's performance and also highlights a child's achievements in extra-curricular activities.

The idea behind the startup was the result of Dhairya and his friends' frustration at the difficulty in accessing their results in the school's IT system during the lockdown and being challenged by their maths teacher to think of better ways to show students' all-round abilities.

Dhairya says his app is being used at his school for six months and he has received positive feedback from students, parents and teachers alike. The innovator sees his app being used in schools across the country in the coming years and becoming the normal mode of communication with students.

His favourite innovator is Leonardo da Vinci "simply because of his extraordinarily wide range of ideas." For Dhairya, the most exciting part of his startup journey was seeing his app being used in real life. The most difficult part was getting help to transform his app into a tidier, more marketable package.

Dhairya wants to expand his work and one of his ideas is to find solutions to absorb carbon from the atmosphere so as to achieve global temperature reduction targets. He also wants to be involved in reinventing the school education system and make it more relevant.

When feeling uninspired, Dhairya watches YouTube channels such as B1M and Veritasium. The youngster says innovation and critical thinking should be included in the school syllabus to inspire children to become innovators.

He says his journey with CIF has been fantastic and he looks forward to meeting other innovators once the pandemic is over. He also believes platforms like CIF are needed to encourage children.



18

**Founder's Name:** Siddh Rathod

**Startup Name:** J.A.R.V.I.S Personal Home Assistant

**Standard:** IXth

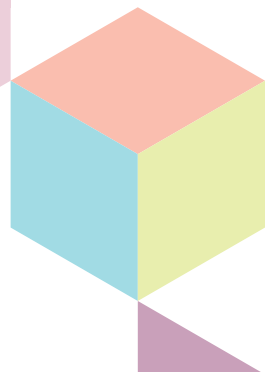
**School:** Rachana School

**City:** Ahmedabad

# A Personal Home Assistant To Shoulder All The Work

## FOUNDER'S MANTRA

“ The greatest of knowledge comes from the humblest of origins. ”



The startup's idea is to make a personal assistant and reduce the amount of daily work everybody has to do and lower the accompanying stress.

Jarvis from the Iron Man movies inspired Siddh to work on this idea, which he says is simple. Moreover, the prototype is also ready.

Through his startup, the young innovator wants to gain experience and wants people to try this inexpensive voice recognition system.

While Siddh believes his vision is good and he has the confidence to take the startup idea to the next level, he is unsure where it would be in the next few years.

“Luck also has a part to play in how things shape up in the future,” he says, adding he would love to see people using his solution.

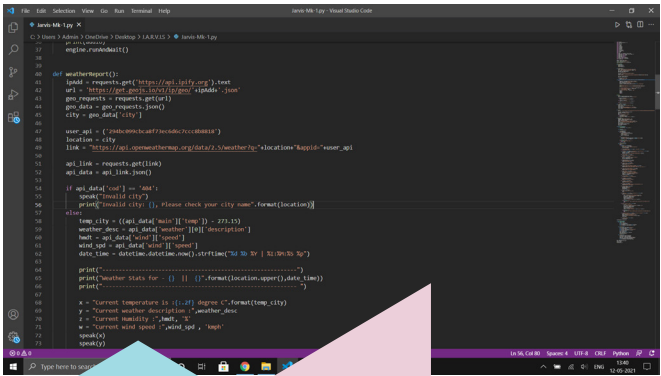
The Ahmedabad kid wants to make J.A.R.V.I.S the one-stop solution for most of the world's problems.

Siddh says an error he faced while creating J.A.R.V.I.S literally took him 5-6 months to resolve, and it was quite challenging. “There were many difficulties, but when I resolved them, I felt the errors were worth it,” he says.

He has two favourite innovators, one fictional (Tony Stark as Iron Man) and one real (Elon Musk). Siddh says he watches motivational videos of Elon Musk when he feels uninspired.

Children can get interested in innovation if schools show them the opportunities, he believes.

The young innovator describes his journey with CIF as “very good.”



19

**Founder's Name:** Pragun Pudukoli

**Startup Name:** Mainstreaming Of Hearing Impaired

**Standard:** XIth

**School:** National Centre for Excellence

**City:** Bangalore

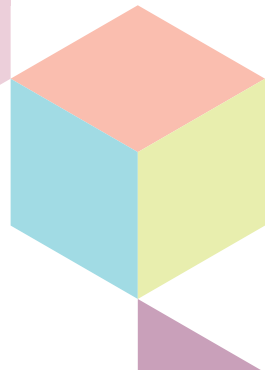
# Bringing The Hearing Impaired To the Mainstream

## FOUNDER'S MANTRA



It's not whether you  
get knocked down, it's  
whether you get up.

- Vince Lombardi



The startup's idea is to use AI to make various mediums of communication and entertainment more accessible to the hearing impaired and bring them to the mainstream.

India is home to nearly 18 million people who cannot hear properly, yet few efforts have been made to bring them to the mainstream, rues Pragun.

The startup was inspired to help the hearing impaired partake in audio-visual entertainment and make education more accessible to them and help them become a part of the mainstream, says Pragun.

The 16-year-old founder sees his startup collaborating with entertainment channels for its innovative offering.

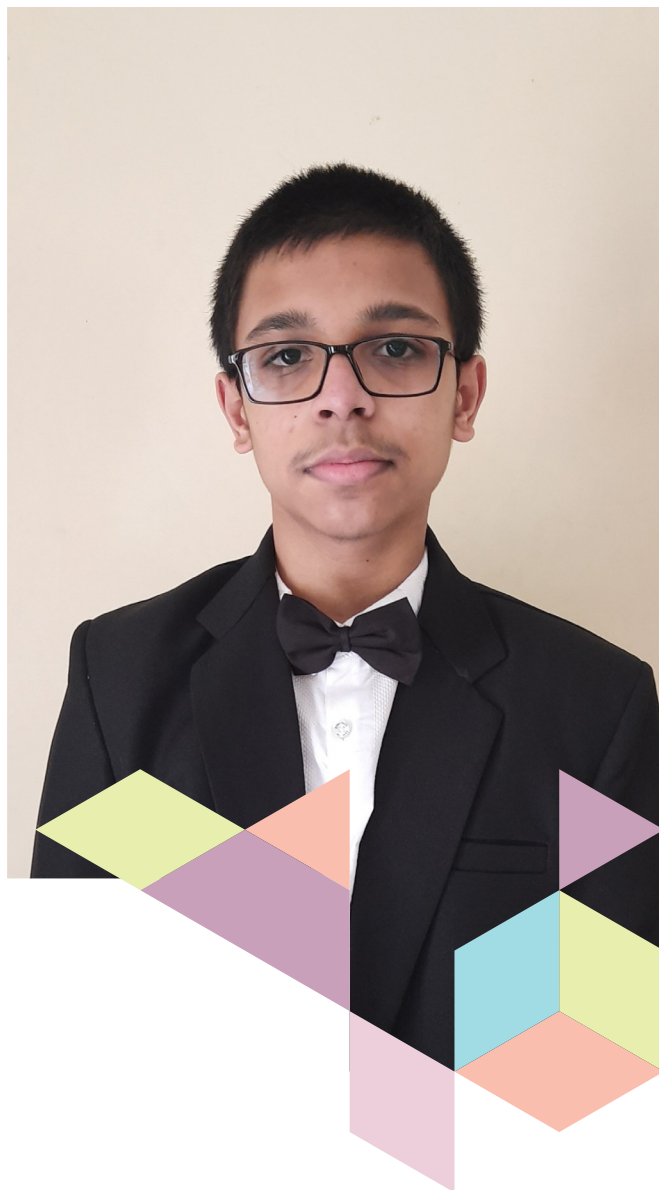
The most exciting part of developing his idea for the young innovator will be when he can learn and teach the AI model to convert audio into sign language and see it working. The most difficult part, he anticipates, would be collecting the huge amounts of data required to train the AI model.

Pragun's favourite innovator is Elon Musk, who, he says, constantly comes up with new ideas to solve problems.

Education inequality and mental health issues are some of the other problems Pragun sees his startup working to solve in the future. He also wants to help the world move away from fossil fuels and shift to green energy.

When feeling uninspired, Pragun says he watches movies and funny videos or reads interesting books. The teenager says making children aware of the inspiring stories of ideas that worked and those that did not can encourage children to become innovators.

Pragun says CIF is very well organized, responsive and his experience with it has been impressive.



20

**Founder's Name:** Pranjal Patel

**Startup Name:** Manually Operated Cleaning Machine

**Standard:** VIIIth

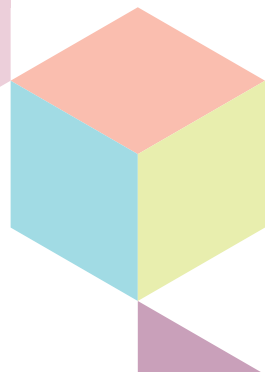
**School:** G K Dholakia School

**City:** Rajkot

# A Machine To Help Clean More In Less Time With Less Energy

## FOUNDER'S MANTRA

“ Do good for others,  
it will come back in  
unexpected ways! ”



The startup's idea is to develop a manually operated cleaning machine that can help clean a large area in less time and with much lower energy.

The Rajkot girl says the idea for the manually operated cleaning machine was inspired by her guide, who continuously motivated her to think of new ideas and to innovate.

The young innovator sees more and more people using the manually operated cleaning machine and benefiting from it. Still, she isn't sure where her startup would be in the next few years.

Pranjal says her guide is also her favourite innovator. At times when she is feeling uninspired, the young innovator speaks with her guide, who inspires and motivates her, and helps her regain her drive.

For the young girl, the most exciting and also difficult part of her startup journey was shooting a video of the cleaning machine in action and working on a PowerPoint presentation about the same.

Pranjal says she would like to focus on her current innovation and hasn't yet given a thought to working on other problems.

More children can be encouraged to become innovators by constant motivation and exposure to the world of innovation, says Pranjal adding, "As GUSEC & their whole team have given to us."

She says her association with CIF has led to significant activity and provided her the necessary encouragement to progress ahead with her startup idea.





21

**Founder's Name:** Darsh Shaan Dudhia  
**Startup Name:** Mask Detection System  
**Standard:** IVth  
**School:** St. Kabir School (DIO)  
**City:** Ahmedabad

# Using AI To Detect Mask Guideline Offenders

## FOUNDER'S MANTRA



I succeed or I learn,  
but I never fail.

- Paul Sloane



The Mask Detection System is an AI-based web application software for detecting those who avoid using masks. It is compatible with a wide variety of cameras for video capture, and it uses Machine Learning for model training.

Face masks have been a potent shield against the Coronavirus, but many people still do not wear masks in public places or workplaces. The mask detection system was inspired by the need to enforce masks and identify those who are not using masks.

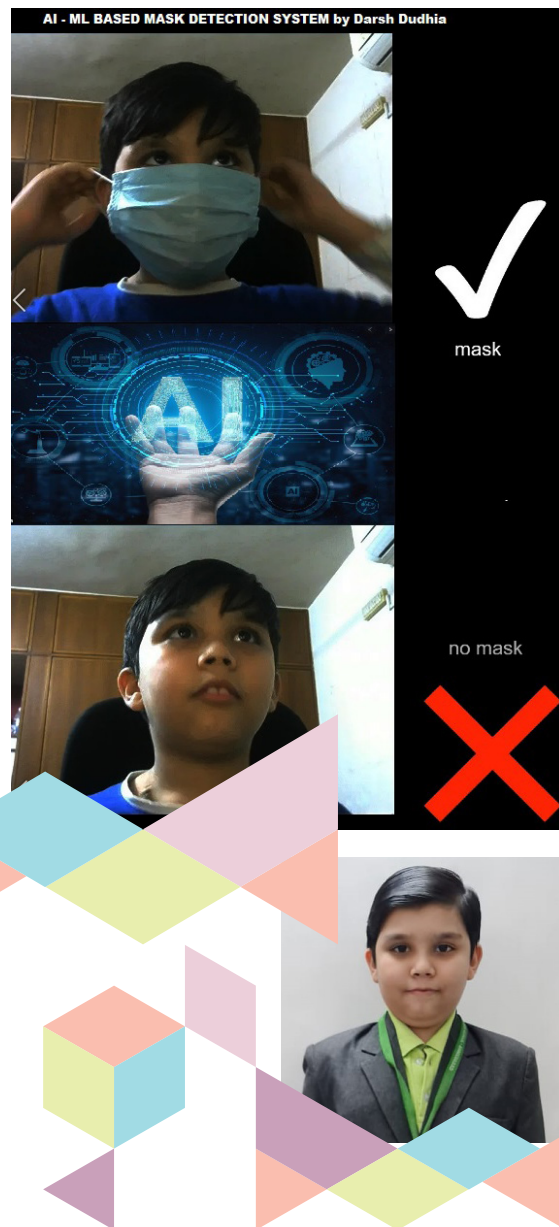
Founder Darsh sees the efficient mask detection solution achieving digital transformation in law enforcement and public health and safety during this pandemic.

The young innovator believes Machine Learning and AI integration will help tech startups compete with larger, established companies in the future and aims to be a part of that AI/ML revolution. He wants his startup to be equipped with the critical business skills required to transform itself into a successful business.

In near future, unemployment, healthcare, education and economic inequality are some of the other challenges the young innovator wants to address. The Ahmedabad boy says Elon Musk is his favourite innovator. He is excited by the various techniques that use ML and automated model training to identify faces with higher accuracy and ease.

When feeling uninspired, Darsh says he plays music, watches interesting videos on YouTube and spends time building something to refocus his energy.

He believes the answer to encouraging more children to become innovators is play + curiosity + passion + fearlessness + purpose. About his journey with CIF, Darsh says the platform has given him a detailed vision about his startup and how to turn it successful.



22

**Founder Name:** Suvrat Matanhelia

**Startup Name:** MedKit

**Standard:** XIth

**City:** Lucknow

**School:** Seth MR Jaipuria School

# An AI-Driven Medical Assistance Tool

## FOUNDER'S MANTRA

“ If you haven't found  
it yet, keep looking. ”  
- Steve Jobs



MedKit is intended to be an all-in-one artificial intelligence-powered medical assistance tool having universal applicability.

The hardships faced by people across countries in availing medical facilities during the Covid-19 crisis and even otherwise is what inspired Suvrat to found the startup.

Suvrat wants his startup, which is still in the idea stage, to change the world, and believes technology can be utilized for a positive impact on the daily lives of millions of people.

Unsurprisingly, he is highly inspired by Elon Musk, the founder of Tesla and SpaceX. Suvrat sees Musk as a genius and believes his futuristic and innovative approach makes him the best entrepreneur and engineer of all time.

Suvrat believes in aiming high and sees his startup at the “top of the world” in the next few years.

When feeling down, the budding innovator likes to sit alone and imagine, something that helps him recharge.

Sadness, illiteracy, depression, poverty, pollution, unreliable internet and plastic menace are some of the problems Suvrat says he wants to solve.

The young founder says the CIF was his first opportunity to work towards making his idea a reality and his journey has been “satisfactory.”

Suvrat believes children are natural innovators, but many of them do not get the opportunity to become one as their minds and energy are forced to be directed towards securing a degree. He says instead of pressurising children to be into academics, they must be allowed to take the path they want to.



23

**Team Members:** Aryan Kalra, Chittesh Lohani, Asmi Bhatia and Ezzah Danish

**Startup Name / Idea:** Mineral Adding Bamboo Drip Irrigation System

**Standard:** Xth

**School:** Amity International School, Sector-46, Gurugram

**City:** Gurugram

# A Bamboo-Based Mineral Adding Drip Irrigation System

## FOUNDER'S MANTRA

“ Have the courage  
to follow your heart  
and intuition. ”

- Steve Jobs



The project uses bamboo pipes to move water using the force of gravity. The water is filtered with a metallic sieve, minerals are added to it and mineral-rich water is dropped into plant roots.

The problems faced by farmers in the Northeast region and the spirit to help them with an affordable solution that helps in reducing water requirement and enhancing yield is what inspired the young innovators to work on the Mineral Adding Bamboo Drip Irrigation System.

The quartet believes their unique and innovative system can change the lives of farmers in Northeast India. Aryan says the whole project was exciting for them. However, designing the mineral adding unit was one of the most difficult tasks they faced while working on the simple yet effective model.

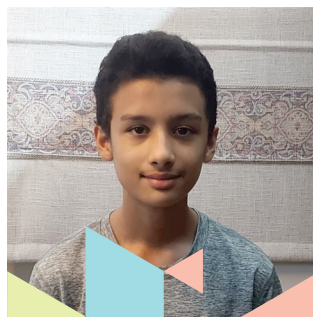
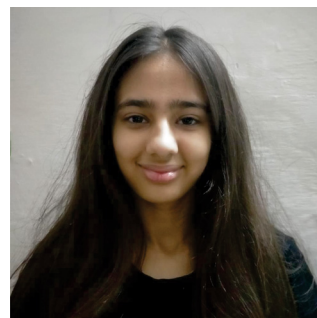
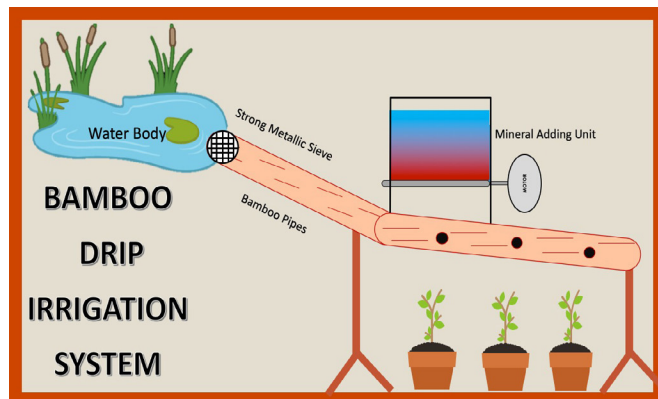
The young innovator says they see the Mineral Adding Bamboo Drip Irrigation System being installed across farms in Northeast India and contributing to farmers' productivity and well-being.

Steve Jobs is Aryan's favourite innovator "for the manner in which he transformed the way we communicate."

When feeling uninspired, the youngster says he reads about great innovators and draws inspiration from how they overcame the challenges.

Going ahead, the startup would like to address the problem of poverty and the issue of animal welfare.

Aryan says children can be encouraged to become innovators by providing them the knowledge and resources to innovate. "My journey with CIF has been great. I am thankful to CIF for giving my team and me this opportunity to present our idea on a big platform," he says.



24

**Founder's Name:** Stuti Priya

**Startup Name:** Mosquito repellent using waste marigold flowers

**Standard:** VIIIth

**School:** Amity International

**City:** Noida

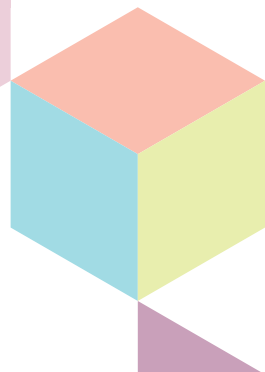
# Turning Flower Waste Into Mosquito Repellent

## FOUNDER'S MANTRA



What is now proved  
was once only imagined.

- William Blake





Using waste marigold flowers, Stuti made a mosquito repellent and larvicide, an insecticide used to kill mosquito larvae, in this project. Her product does not contain harmful chemicals and her goal is to turn waste marigold flowers into a valuable product.

Her inspiration came from rising cases of diseases related to mosquito bites. Also, the massive rise in number of mosquitoes in urban and rural areas and their breeding places has resulted in a corresponding increase in deadly and dangerous diseases. “I wanted to prepare a mosquito repellent to safeguard ourselves from fatal mosquito-related diseases.”

Stuti wants to fulfil her twin objectives through this startup - collecting and reusing waste flowers and making cost-effective mosquito repellent from these flowers.

To Stuti, all the people providing solutions to different problems are her favourites.

Whenever she feels uninspired, she tries to spend some time with family and friends by playing games, talking, enjoying nature or dancing and singing.

“Doing these things cleans my mind and make me feel inspired again.”

Stuti says she has enjoyed the CIF webinars and was looking forward to doing more with CIF.

According to her, the most exciting and challenging part of her innovation was experimentation.

“I was terrified to work with mosquito larvae, but as the experimentation went on, I got excited observing how my product reacts to the larvae and seeing the results towards the end.”



25

**Founder's Name:** Aleena Khimani

**Startup Name:** PaperBits

**Standard:** XIIth

**School:** S.N. Kansagara School

**City:** Rajkot

# PaperBits - Working To Promote Recycled Items

## FOUNDER'S MANTRA



I alone cannot change the world, but I can cast a stone across the waters to create many ripples.



PaperBits collects used items such as glass pieces, wood pieces, paper, wedding cards, etc., and creates novel, creative and eco-friendly products from them.

The inspiration behind the startup was a lack of awareness towards rising environmental pollution and the tendency to discard used items as waste instead of trying to reuse or recycle them.

Aleena says PaperBits is aimed at promoting the idea of recycling items and creating eco-friendly products, thereby reducing waste, lowering pollution and creating a healthier planet.

For Aleena, the most exciting part of her startup was to make novel and eco-friendly products out of used items collected from the neighbourhood, while the most difficult aspect was to create products that are different from those already available.

Aleena sees PaperBits having a national presence in a few years and creating a huge social and economic impact on the nation by making more and more people aware of the benefits of recycling and by encouraging them to use products made from used items.

On occasions when she is feeling low, Aleena collects random waste items from her home and attempts to create something useful from them. Poverty and pollution are the other problems PaperBits wants to work to address in the future.

Aleena describes her journey with CIF as exceptionally great, one that has allowed her to get better insights into executing her innovative idea, and also helped her connect with other innovators.

Aleena says children are full of new ideas and suggests an event like GUSEC CIF at the beginning of the year in schools could help channelize their ideas and innovations.



26

**Team Members:** Yagyik Thakur, Arnav Goyal, Shiv Tyagi, Vanshika Aggarwal

**Startup Name:** Plasma Pyrolysis

**Age:** VIIIth

**School:** Amity International School, Mayur Vihar

**City:** Delhi

# Using Plasma Pyrolysis To Dispose Off Waste Profitably

## FOUNDER'S MANTRA

“ Creativity is intelligence having fun. ”  
- Albert Einstein



The startup idea deals with the effective disposal of all types of wastes like plastic, bio-medical and municipal waste through a project based on plasma pyrolysis. This waste disposal technique can convert waste into various byproducts and energy without harming the environment.

The collapse in the Ghazipur landfill in Delhi, which caused the death of two persons, inspired Yagyik and his team members to think of a better way of waste disposal. And now, through his startup idea, they want to ensure the same is done in a manner that doesn't harm the environment and also provides valuable byproducts in the process.

In the next few years, the young innovators want to see their startup idea benefitting the environment. Going ahead, they also want to solve problems related to energy production as in India, the supply of energy is still lower than the demand.

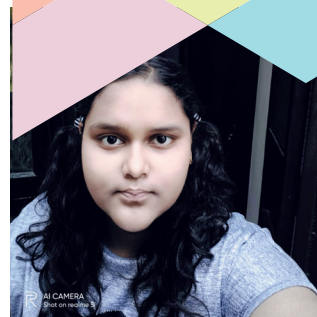
For the youngsters, the most exciting and most challenging part was finding that plasma can be a solution in waste disposal.

Yagyik says his favourite innovator is Thomas Elva Edison because "he never lost hope and knew that his invention could change the world. So he kept working hard on his most famous invention, the light bulb."

When feeling down, Yagyik reads Stephen Hawking's books, which inspire him to do something to change the world in a better way.

The youngsters feel more children can be encouraged to become innovators by sensitizing them towards the burning problems and motivating them to find solutions.

The team says they have had a "great journey" with CIF and the way CIF extended help left them "mesmerized."



27

**Founder's Name:** Shikhar Gupta

**Startup Name:** POLLINCON Pollution Informer Controller

**Standard:** XIIth

**School:** Bal Bharti Public School

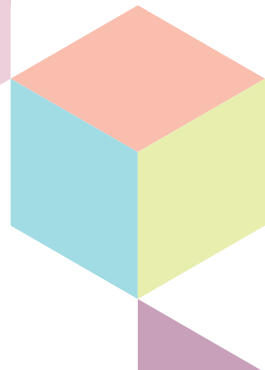
**City:** Noida

# Purifying Air The Easy & Affordable Way

## FOUNDER'S MANTRA

“ Man is made by his belief. As he believes, so he is. ”

- Bhagavad Gita





POLLINCON is an instrument designed to give out pure air after filtering the air. But first, a POLLINCON measures the toxins in the air. The startup aims to set up mobile POLLINCONS in different neighbourhoods. These mobile POLLINCONS will come at an affordable cost, flexible design, easily adaptable features and simple operating procedures.

Severe air pollution in and around Delhi, especially after Diwali, inspired Shikhar to work out ways of purifying the air quickly and affordably.

Late President Dr APJ Abdul Kalam inspires Shikhar, who he says started as a tamarind and a newspaper seller, but became a successful scientist because of hard work, enthusiasm, and determination.

Shikhar wants 50,000 units of his device installed on civic trucks to provide purified air to people in the future.

According to Shikhar, the most exciting and challenging part of developing his idea was working out the filtering and purifying unit because it requires a good amount of research about the pollutants, purification and filtering methods.

When feeling de-motivated, Shikhar watches inspirational movies, listens to startup success stories and motivational talks.

“I talk to myself about my goals and aspirations and think on strategies to achieve them.”

Shikhar says his journey with CIF has been fantastic. “I am learning new things like deadline management, how to deliver a strong pitch, how to be confident while speaking in public, how to make an attractive PPT for your product and what qualities an entrepreneur should have.”





28

**Founder's Name:** Aryan S Sojitra

**Startup Name:** Portable Fresh Air Supplier For Corona Warriors

**Standard:** VIIIth

**School:** KG Dholakiya School

**City:** Rajkot

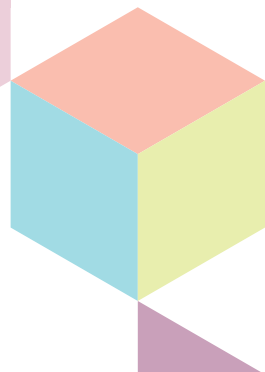
# Creating Fresh Air Supply For Corona Warriors

## FOUNDER'S MANTRA



Dream, dream, dream.  
Dreams transform into  
thoughts and thoughts  
result in action.

- Dr APJ Abdul Kalam



The startup is working on a portable fresh air supplier for Corona warriors.

Corona warriors, facing the problem of suffocation while working because of wearing PPE kits or masks, was the inspiration behind this startup.

Founder Aryan says he is working on a low-cost portable fresh air supplier that can be used in PPE kits, masks as well as face shields. He aims to prepare a mask having a fresh air supply or a detachable fresh air kit.

Aryan says the most exciting and the most difficult part of developing his innovative idea was fixing an air pump with a sensor-operated system in a kit and designing a cash/box in a 3D printer with precise size.

The young innovator expects his idea to be transformed into an actual product in the next five years and be readily available in the market in the event of future pandemics.

Aryan says in the future he wants to spend his time and energy to find an eco-friendly material that can be a substitute for plastic and help in lowering pollution.

Aryan considers Hetal Vaishnav, who came up with an innovative solution to recycle and reuse non-recycled plastic packaging film, as his favourite innovator.

When feeling uninspired, Aryan motivates himself by thinking of his innovation and how he can take it ahead.

Aryan says schools should regularly organise innovation-related workshops to spark creativity in children and encourage them to become innovators.

Describing his journey with CIF as “nice and exciting,” Aryan says it has enabled him to learn many new things.



29

**Founder's Name:** Pranav J

**Startup Name:** Presit – Wearable Sanitizer Dispenser

**Standard:** VIth

**School:** Raks Pallikkoodam

**City:** Coimbatore

# A Wearable Sanitizer Dispenser To Boost Hygiene Levels

## FOUNDER'S MANTRA

“ Invent your future. ”



As the name suggests, the startup's idea is to develop a wearable sanitiser dispenser that can allow hands to be sanitised whenever required.

Reports of many people getting infected by the Corona virus as a result of touching infected surfaces and not washing or sanitizing hands and some of them also losing their lives inspired Pranav to come up with the idea of a wearable sanitizer dispenser.

The young innovator sees his device proving to be extremely useful in improving hygiene levels and protecting people from contracting the Corona virus and other viruses.

Pranav says the most exciting part of the startup journey was converting his idea into a real product, while convincing people about the wearable sanitizer dispenser's advantages was the most challenging.

The young innovator has ambitious goals for himself and sees his startup among the top 500 technology and innovation startups in India in the next few years. The youngster says his favourite innovator and inspiration is his father, an inventor with more than 30 innovations to his credit.

Going ahead, Pranav says he would like to work to address problems such as water scarcity and food shortage. At times when he is feeling uninspired, the youngster says he reads books and spends time watching the popular cartoon serial Doraemon.

Pranav says more children can be encouraged to become innovators through better rewards and recognition through awards and by providing a creative environment to them. He says the language barrier also needs to be tackled to inspire children to innovate.

"My journey with CIF was good and highly motivating," says Pranav.



30

**Names Of Founders:** Kashyapi Mondal, Rishi Raj Singh

**Startup Name:** Production Of Green Energy From Food Waste

**Standard:** IXth

**School:** Kendriya Vidyalaya IIT

**City:** Guwahati

# Producing Green Energy From Food Waste

## FOUNDER'S MANTRA

“ Dream is not what you see in sleep, dream is something which doesn't let you sleep. ”

- Dr APJ Abdul Kalam



The startup is carrying out studies using fruits and vegetable solutions to produce electricity using Reverse Electro Dialysis (RED), a technology where power is generated from aqueous salt solutions of different concentrations using an ion-exchange membrane.

A clean and pollution-free environment in states like Karnataka and Telangana is what inspired Kashyapi and Rishi to work on ways to produce green energy.

They want to use food waste to generate electricity and aim to become innovators by acquiring the experience and knowledge to convert the idea into a reality.

Both are inspired by English scientist Michael Faraday, who they say electrified the world with his inventions in spite of his humble family background.

According to Kashyapi and Rishi, the most exciting part so far was the first time they found electricity in the voltmeter for conducting their experiments, while the most difficult part is to prepare and set up graphene oxide membrane in the device.

The youngsters want to see their idea being implemented by the government of India or the corporate sector to produce energy on a commercial scale using food waste.

When feeling uninspired, they take to writing, which brings them happiness and peace, they say.

The startup wants to help in solving problems such as Covid-19, traffic jams and also wants to work on producing energy from different organic and inorganic waste material.

Kashyapi and Rishi describe the journey with CIF as “inspiring” and “awesome” and want educational institutions to conduct similar programmes in schools in regional languages.



31

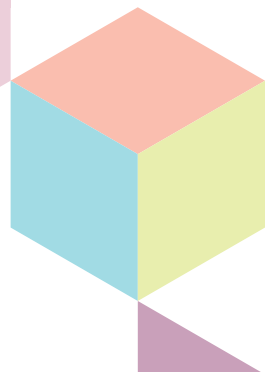
**Founder's Name:** Jash Vanidani  
**Startup Name:** Productivity Box  
**Standard:** XIth  
**School:** Puna International School  
**City:** Ahmedabad

# A Box To Help Users Become More Productive

## FOUNDER'S MANTRA



What's worse? Failure or regret for not giving it a shot?





Productivity Box is a device that helps users stay efficient and become more productive, thus indirectly rewarding them for their efforts.

Jash's experience while preparing for JEE of being unable to complete tasks unless he set a system to reward himself and the realisation that to-do lists don't work for most people is what inspired him to work on a device that could help him become more productive.

The young innovator aims to help people become more productive with the Productivity Box and change the world for the better. For the Ahmedabad boy, the most exciting part of the startup journey was the idea and its immense possibilities and the toughest part was to develop the skill or find the people to execute the idea.

The young innovator sees his idea becoming a reality in a few years from now and has two "great" models in mind.

Elon Musk, Steve Jobs, Nikola Tesla, Thomas Edison, Edward Jenner and Bill Gates are Jash's favourite innovators and he is also deeply inspired by Warren Buffett. When feeling uninspired, the young innovator loves playing games, especially story-driven games such as 'Uncharted' and 'Last of us'.

Going ahead, Jash would like to contribute to the renewable energy sector, work to protect endangered species, change the Indian education system and make "travelling easier for people."

To encourage more children to become innovators, the Ahmedabad boy says, "Students of class IXth and Xth should be taught about startups and entrepreneurship. Sharing of knowledgeable videos on YouTube and other social media platforms can also help." Jash describes his journey with CIF as great and has loved the support and energy he has received.



32

**Founder's Name:** Krishna Bansal

**Startup Name:** Rakshik – Covid Protective Gear for Health Workers

**Standard:** IXth

**School:** Anand Niketan, Maninagar

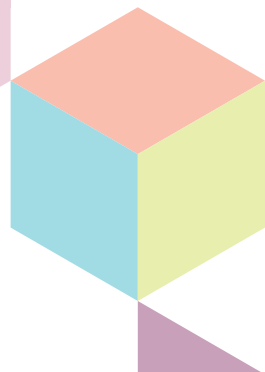
**City:** Ahmedabad

# A Gear To Protect Healthcare Workers From Covid

## FOUNDER'S MANTRA

“ I’ve not failed. I’ve just found 10,000 ways that won’t work. ”

- Edison



Rakshik is an innovative wearable gear that could protect doctors and other healthcare personnel from Covid-19 effectively.

It was a news item about challenging circumstances in which doctors were working in Covid-19 hospitals and a senior health official's call to think of unique solutions that inspired Krishna to come up with an innovative protective gear.

The youngster says the gear designed by him is unique and can help keep healthcare personnel safe and he expects support from GUSEC and Gujarat government to scale up.

The Ahmedabad boy says the entire startup journey has been fascinating for him. But, moving from the ideation stage to developing a prototype during the pandemic time was especially trying. "But my school and teachers believed in me and supported me by providing me the required components to build the prototype," he says.

He sees her idea becoming a breakthrough product in a few years and his startup growing significantly in size in the next five to seven years.

He considers Thomas Edison as one of the most significant and inspiring innovators and inventors in history for his path-breaking innovations and because of his perseverance.

When feeling uninspired, Krishna prefers to read about various scientists, their innovations, and their impact on history. "I also think about solutions to other problems around me," he says.

Going ahead, he also wants to focus on ways to improve lives of the marginalized. he believes more children can be encouraged to become innovators by boosting the innovation ecosystem and activities such as boot camps. "It has been challenging, learning, and rewarding," he says about his CIF journey.



33

**Founder's Name:** Kushal Radia

**Startup Name:** Refreshing Anti-Bacterial PPE Kit

**Standard:** VIIIth

**School:** SN Kansagara School

**City:** Rajkot

# Protecting Doctors From Viruses And Keeping Them Comfortable

## FOUNDER'S MANTRA



Arise, awake and  
stop not, till the goal  
is reached.

- Swami Vivekanand



This PPE kit can shield doctors and other healthcare personnel from bacteria and viruses. Being made of sweat-absorbent material, it keeps the body cool and can be worn comfortably for long hours.

Many doctors and healthcare workers testing positive for Covid-19 despite wearing PPE kits inspired the idea for a different kind of PPE kit.

Founder Kushal says his PPE kits will be made of material that will protect all kinds of bacteria, viruses and pathogens. Moreover, the kits are planned to be washable and thus reusable.

In a few years, the young innovator sees his kits being used widely in India and being exported to several countries. He says the most exciting part of his startup journey was developing the reusable and washable part of the PPE kit. The most difficult part is making the model without any financial support.

The Rajkot boy considers Elon Musk his favourite innovator. He is especially impressed by his innovation of reusing rockets which he says even “NASA or any other space agency did not think of.”

Going ahead, Kushal wants to work on affordable smart robots similar to the ones used in factories, but for assisting in the kitchen.

When feeling uninspired, the youngster says he tries to innovate something and says his CIF journey has been “great.”

On encouraging more children to become innovators, Kushal says they must be assisted in preparing models of their projects and supported in publicizing the products. “I think this will be the start of many of them becoming innovators and entrepreneurs,” he says.



34

**Founder's Name:** Arush Singhal

**Startup Name:** Secret Eye Of The Army

**Standard:** Xth

**School:** Amity International School

**City:** Gurugram

# Helping The Indian Army In Surveillance

## FOUNDER'S MANTRA

“ A winner is a dreamer who never gives up. ”

- Nelson Mandela



The startup aims at developing a low-cost unmanned ground vehicle to assist the Army in border surveillance and also keep a watchful eye on the opponent's territory.

This idea aims at the 'Make in India' dream of our Prime Minister and can be used for multiple purposes as a robot to inspect facilities and voice-controlled autonomous wheelchair for the disabled.

The Chinese incursion in the Galwan Valley inspired Arush to work on his idea of developing a unique vehicle to make border surveillance relatively easy and provide a competitive edge to the armed forces.

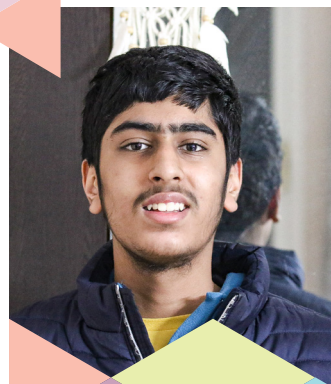
Arush is inspired by Elon Musk as he leads by example, converts his ideas into reality and sets exceptionally high standards. According to Arush, the exciting part of the project was bringing all the components together and testing the product. The tricky part was building the artificial intelligence part of the robot.

Arush wants to see his idea mature into an actual unmanned robotic vehicle with new features. He also wants the Army to use his automated vehicle.

Arush has plans on creating cost-effective oxygen producing units along with making ventilators. He also wants to make a voice-controlled wheelchair to help the elderly and physically challenged people.

When Arush feels low, he reads about the latest innovation happening in the world. Arush says his journey with CIF has been incredible so far.

"I have learnt new things like presenting your idea with the help of a pitch video, various steps of innovation and patenting."





35

**Founder's Name:** Aryavarta Singh

**Startup Name:** Shoe-Drishti

**Standard:** XIth

**School:** Kendriya Vidyalaya (SAC)

**City:** Ahmedabad

# A Smart Shoe To Help Visually-Impaired Become Independent

## FOUNDER'S MANTRA

“

However difficult it may seem, there is always something you can do and succeed at it. It matters that you don't just give up.

”



The startup's idea is a self-charging smart shoe for visually impaired people to assist them in walking without the need of any other support and help them become independent.

Aryavarta's school is near the Blind People's Association and they used to be taken there regularly to donate books to visually challenged people and interact with them. The daily struggles of the visually impaired, especially seeing how dependent they are on others, is what inspired the young innovator's idea.

The Ahmedabad boy sees his startup bringing a positive change in the lives of the visually impaired by creating niche products for them.

In the next five years, Aryavarta sees the launch of plug n play model of the smart shoe. This means people would not be required to buy the whole shoe, but only the device and the sole, which would be compatible with any other shoe. The model is being designed currently, he says.

The most exciting part was designing the 3D model for covering the electronics, and the difficult part was connecting multiple wires correctly. Aryavarta's favourite innovator is Nikola Tesla, who he says just focused on working for society's betterment.

Going ahead, he wants to come up with innovations that can allow specially-abled people to be independent and help them tap their potential.

When feeling low, the youngster clears his mind by reading about new discoveries and the latest in science & technology.

He says raising awareness among children about problems can encourage them to find solutions and become innovators. "The journey with CIF has been amazing. I have learnt so much from the boot camps and lectures," he says.



36

**Founder's Name:** Pratul Gupta

**Startup Name:** Smart Bumper

**Standard:** IXth

**School:** Amity International School, Saket

**City:** Delhi

# Saving Lives By Preventing Road Accidents

## FOUNDER'S MANTRA

“ I’ve not failed. I’ve just found 10,000 ways that won’t work. ”

- Edison



Smart Bumper is a smart solution comprising ultrasonic sensors that automatically sense an obstacle, stop the vehicle in time and prevent road accidents.

Finding a way to prevent the loss of lives and injuries in road accidents is what inspired Pratul to come up with the idea of Smart Bumper.

Pratul says he wants to see Smart Bumper becoming a part of every car and making roads safer for drivers, passengers and pedestrians.

Developing the mechanical aspect of the Smart Bumper was the most exciting part of the project for him, whereas figuring out a way to attach the product to the car was the most difficult part. Pratul sees his startup idea at least at the prototyping stage in the next few years, and Smart Bumper being ready to be sold to consumers.

The Delhi lad's favourite innovator is Nikola Tesla, who he says didn't let his financial limitations come in the way of his innovations.

On days when he feels uninspired, Pratul says he looks around at various problems in society and thinks about solutions to fix them. This, he says, helps him regain his inspiration.

Water management, water shortage and increased use of renewable energy sources are some of the other challenges Pratul wants to take up going ahead. Pratul says children can be encouraged to become innovators by letting them take their own approach to solve problems and giving them real-life problems to solve.

"To be given the opportunity to establish my own startup is an opportunity of a lifetime," Pratul says describing the journey with CIF as "amazing."



37

**Founder's Name:** Kushagra Pant

**Startup Name:** Smart Compact Mobile controlled tractor (SCMCT)

**Standard:** IXth

**School:** Bal Bharati Public School

**City:** Noida

# A Smart Mobile Controlled Tractor To Help Farmers

## FOUNDER'S MANTRA

“Never give up  
till the very end.”



The Smart Compact Mobile Controlled Tractor is a solution that can help farmers in hilly areas and those needing financial and physical help for farm work. The solution will use AI-based technology and will also benefit the environment.

The sight of farmers working in fields along with animals without any proper technical assistance or financial support is what inspired Kushagra to come up with the idea of a mobile controlled tractor that can help farmers.

The young innovator aims to transform his idea into a reality with the help of experts from the Gujarat University Startup and Entrepreneurship Council (GUSEC). Kushagra sees his idea being developed into an actual tool in a few years helping farmers and boosting the economy.

The most exciting and most difficult parts of the project were creating the AI software, working on the project in the most compact size, and using electricity instead of fuel. Implementing solar panels as per the project's size was also extremely challenging.

His favourite innovator is Nikola Tesla and he believes some of his works were far ahead of his time. Going ahead, Kushagra also wants to work to improve the healthcare infrastructure, focus on research and development to generate more ideas for society's betterment and work on projects that can strengthen the emergency forces.

When feeling uninspired, the youngster plays games to refresh himself. He believes more children can be encouraged to become innovators by making innovation a part of studies, making them aware of recent innovations, and using innovative methods in teaching to generate interest.

"CIF helped me expanding my knowledge and I got to see ideas of other innovators," he says.



38

**Founder's Name:** Jatin Sangwan

**Startup Name:** Smart Irrigation System

**Standard:** Xth

**School:** Army Public School

**City:** Hisar, Haryana

# A Smart Irrigation System To Help Farmers

FOUNDER'S MANTRA

“ Never Give Up. ”





The startup's idea is an IoT-based smart irrigation system, where farmers get to know the field's moisture level on their smartphone and the motor can be turned on or off remotely based on the feed value.

The condition of farmers in his village with many of them required to go to the fields for watering the crops even during scorching afternoons is what inspired Jatin's startup idea.

The Hisar boy says his startup is for farmers and the basic purpose of his idea is to help Indian farmers.

Jatin says developing his idea into a prototype and then deploying it in a field was the most exciting and the most difficult part of his startup journey.

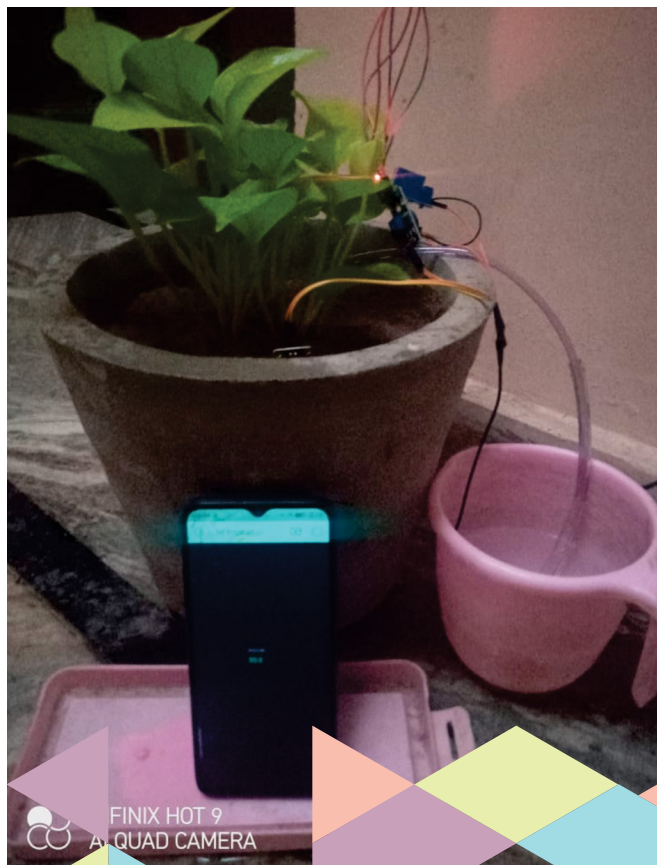
The young innovator sees the smart irrigation system being adopted by farmers across the country and widely used in the next five to seven years.

The youngster says he does not have a favourite innovator as such, but he draws inspiration for his work from the sight of farmers toiling hard in their fields to produce food for everyone. Going ahead, he also wants to come up with innovative ideas that can help the Indian defence forces.

When feeling uninspired, Jatin says he focuses on the positivity around to regain his motivation.

The young innovator believes more children can be encouraged to become innovators by supporting them and helping them grow. He describes his journey with CIF as "amazing."

"I hope I can also be a part of other CIF-like competitions organized by the Gujarat University Startup and Entrepreneurship Council (GUSEC)," he says.





39

**Names Of Founders:** Sushruth Ts, Pranav Ah, Kushal Gr

**Startup Name:** Smart Segre Unit

**Standard:** VIIIth

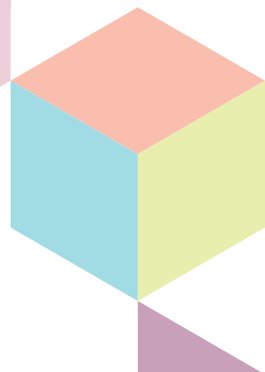
**School:** Vidya Vikasa Vidya Samsthe

**City:** Chitradurga, Karnataka

# Segregating Dry Waste Through Smart Portable Unit

## FOUNDER'S MANTRA

“ A winner is a dreamer who never gives up! ”



The startup's idea is a portable and intelligent dry waste segregation unit that can be installed in waste collection trucks, apartments and colonies to support waste segregation at the point of collection itself.

Growing heaps of waste in dump yards across cities inspired the three young innovators to think of a potential solution to the challenge. They also felt an enormous amount of natural resources that can be recycled are getting wasted, leading to exhaustion of resources and causing pollution.

Kushal sees their startup idea getting excellent response from people and having a "presence everywhere" in a few years.

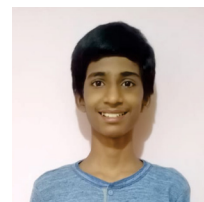
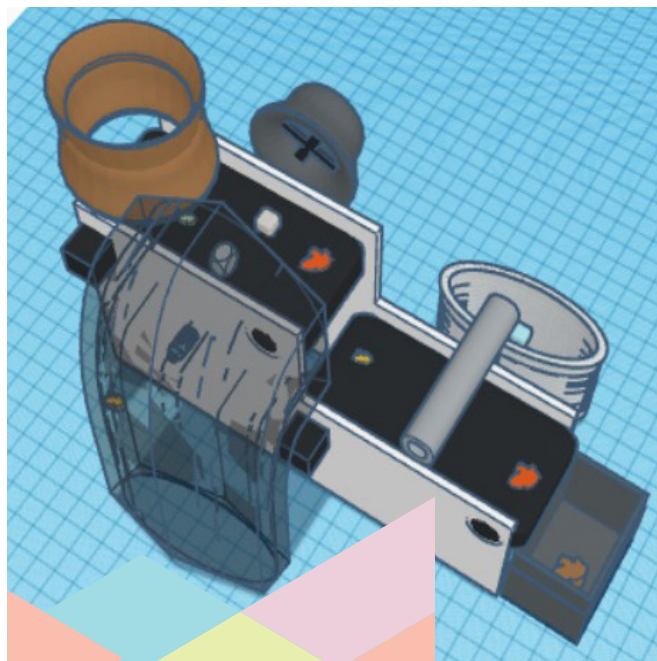
Building a virtual prototype of the waste segregator was exciting, whereas making the working prototype was difficult because of the challenges posed by the Covid-19 pandemic.

Going ahead, the startup also wants to solve problems like the water and energy crisis, air pollution and the Covid-19 situation.

Kushal says he admires all innovators and through this startup idea he and his team wants to achieve clean India and resource conservation.

When feeling uninspired, Kushal says he tries to relax and speaks to his parents. He says he never gives up and tries to find alternate ways to work out the problems.

More children can be encouraged to become innovators if they are inspired through various means, Kushal feels. He describes his journey with the CIF as "very motivational and encouraging" and says he learned many things through the Bootcamp.



40

**Founder's Name:** Shashank Pai Ballambhatt

**Startup Name:** Solar Tracking System

**Standard:** Xth

**School:** Delhi Public School, Bengaluru North

**City:** Bengaluru

# A Revolutionary Solar Tracking System

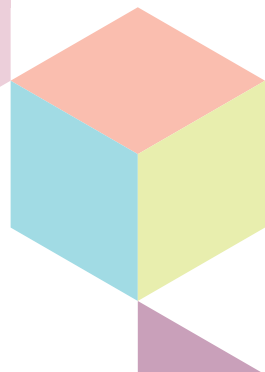
## FOUNDER'S MANTRA

“

The important thing is  
not to stop questioning.  
Curiosity has its reason  
for existing.”

- Albert Einstein

”



The startup wants to reduce human reliance on fossil fuels for energy and help build a greener world for future generations through the innovative use of solar energy by installing solar panels that move in tandem with the sun's movement.

Shashank says his family uses a solar water heater that gives hot water quickly in the afternoon, but cold water in the evenings. After initial observation, Shashank concluded the solar panel was facing east and hence could not heat the water in the evenings.

"This inspired me to build a solar panel that would move according to the direction of the sun," he says, adding that his parents, teachers and younger sister motivated him.

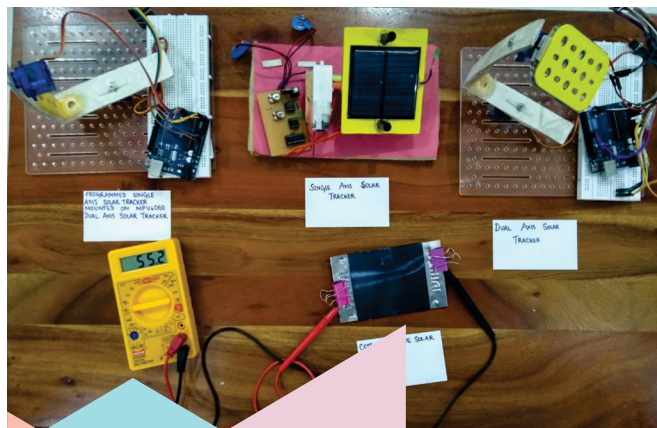
The most exciting part of the startup journey was writing the code for Arduino, which he describes as "highly time-consuming, but truly wonderful." The most challenging part was soldering in making the prototypes, which the young innovator says was too delicate for him.

His favourite innovator is Elon Musk and he plans to use his philosophy of "make everything yourself" in his startup to cut costs.

The Bengaluru boy wants to manufacture the product in three categories: for households, farmers and deserts where both land and sunlight are in abundance. He says that one-fourth of the Sahara desert with solar panels would produce enough electricity to supply to the whole world.

When feeling down, the young innovator says he listens to music, wearing headphones. "It's my mantra for most of the things and it helps me."

Describing his CIF journey as "wonderful and insightful," he says, "The boot camps were highly informational."



41

**Founder's Name:** Heer Shah

**Startup Name:** Solewear

**Standard:** XIIth

**School:** Sheth CN English Medium School

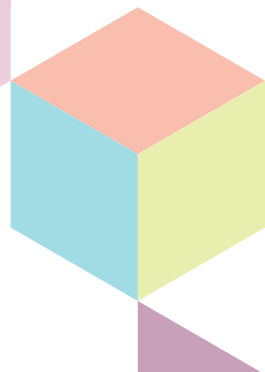
**City:** Ahmedabad

# Shaping Footwear Out Of Recycled Material

## FOUNDER'S MANTRA



The real voyage of  
discovery consists not in  
seeking new landscapes,  
but in having new eyes.



The business idea behind Solewear is to make footwear out of various kinds of recycled materials.

The sheer amount of waste generated and the problem being compounded by companies' lack of willingness to use more recycled materials in their operations is the inspiration behind the startup.

Heer says Solewear aims to work towards greater recycling of products so the same material can be used for far longer, thus contributing to curbing the amount of waste generated.

Heer says the most exciting part of her startup journey was to create designs and getting to know the processes involved in making the products. However, finding material and researching about them was the most difficult part, she says.

The youngster is inspired by founder of startup AltMat Shikha Shah. Heer says she liked the startup's idea and also the fact that it is creating products that everyone can use. Heer sees more people using products made by Solewear in the coming years. She also believes it will play an important role in changing people's mindset towards using products made of recycled material.

When feeling low, Heer plays and thinks about the creative stuff related to her startup.

The teenager also wants to work on the issue of wastage of resources, problems related to the environment and man-animal relationships.

She believes children can be encouraged to become innovators by making them realize the importance of observing things differently and finding solutions for problems. "My journey with CIF has been awesome," says Heer adding, "I have got to know a lot of different things and different people."



42

**Team Members:** Dishita Desai, Janhavi Rathod, Surbhi Adesara, Aayushi Shah, Hemanshi Baria

**Startup Name:** Spinx

**Standard:** XIIth

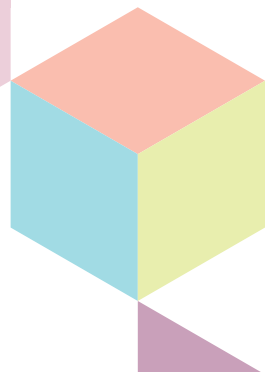
**School:** SN Kansagra School

**City:** Rajkot

# A Product To Make Life Easy For Bakers & Caterers

## FOUNDER'S MANTRA

“ Do the best  
you can. ”





The startup's idea is to bring in a product to make life easier for bakers and caterers. The startup's vision is to add efficiency in the making and producing of various food items, especially in bakeries. The product will also save a lot of time and energy.

Dishita and her team were inspired to think about the product on seeing the hassles people face in daily lives and to help them tackle some of the challenges.

In the next few years, she sees her product being used in bakeries by caterers and other customers. "We want our product to make work easier for our potential customers," she says.

For the young innovators, getting the product design right was the most difficult part of developing their idea as the prototype had to be made considering the different situations it would be used in. The innovators are also worried about climate change, which they see as one of the world's biggest problems and would like to work on it, going ahead.

Dishita's favourite innovator is Tesla and SpaceX founder Elon Musk.

According to Dishita, the best way to find inspiration is in one's surroundings and this is what she does when feeling low. She also reads news articles and uses social media actively to find out what is happening globally.

Events like CIF and school fairs can encourage more children to become innovators as they can channelize their creativity and innovation, she believes. Dishita says her journey with CIF has been the most helpful. "The guidance we received through the whole process of innovation couldn't have been book taught," she says.



43

**Founder's Name:** Kartik Singh Bisht

**Startup Name:** TAGS (Totally Automated Greenhouse Solar Chamber)

**Standard:** XIth

**School:** Cambridge Foundation School

**City:** Delhi

# Revolutionizing Agriculture Through Use Of Solar Energy

## FOUNDER'S MANTRA

“Your passion is  
waiting for your  
courage to catch up.”

- Isabelle Lafleche

The startup aims to maximize the use of land through innovations like SOLAD (Solar Air Dryer), TAGS CHAMBER (Totally Automated Greenhouse Solar Chamber), SVS3 ( Smart Vehicle Safety and Security System). These innovations will maintain the quality of agricultural produce and reduce food spoilage.

Kartik was inspired to do something after seeing the plight of farmers. Also, he wanted to have maximum agricultural produce of the limited land without compromising the quality.

Kartik, through his innovation, an amalgam of technology and old methods, wants to bring sustainable agriculture into the spotlight using solar energy and conventional methods. He believes his innovations can help maximize farm output. According to Kartik, the making of the prototype was an arduous process. "But everything about it was interesting starting from the first piece of cardboard to the final result," he says.

The young innovator sees his solutions doing pretty good in the market and ushering in a revolution in a few years. Kartik's favourite innovator is the 'Renaissance Man' Leonardo Da Vinci, who "conceived ideas ahead of his own time."

Hunger, global warming and wildlife depletion are the other problems the youngster would like to solve as an innovator. When feeling uninspired, Kartik listens to his favourite singer Lana Del Rey, goes for a walk or talks to his friends. Children, Kartik says, can be motivated to become innovators by emphasizing the importance of slowing down and noticing. Games that include strategic thinking can help.

Kartik says his journey with CIF has been "pretty exciting". He adds: "I love everything about the way this event was structured. The team has done a wonderful job handling this event."



44

**Founder's Name:** *Gaurika Kalia*

**Startup Name:** Talking Sheets

**Standard:** Illrd

**School:** Navrachana School, Sama

**City:** Vadodara

# An Online Tool To Help Blind Students In Education

## FOUNDER'S MANTRA



If you want to change the world, first change yourself.

- Mahatma Gandhi



Talking Sheet is a website meant for visually impaired students deprived of online education and covers Maths, Science, English and Computer in interesting voiceover and fun-filled worksheets.

A visit to the blind school as a part of a school trip and seeing the challenges the visually impaired face in their day-to-day lives inspired Gaurika to do something useful for them.

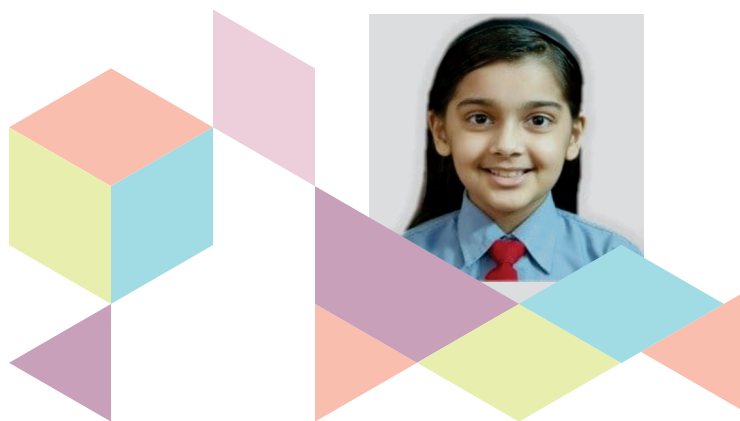
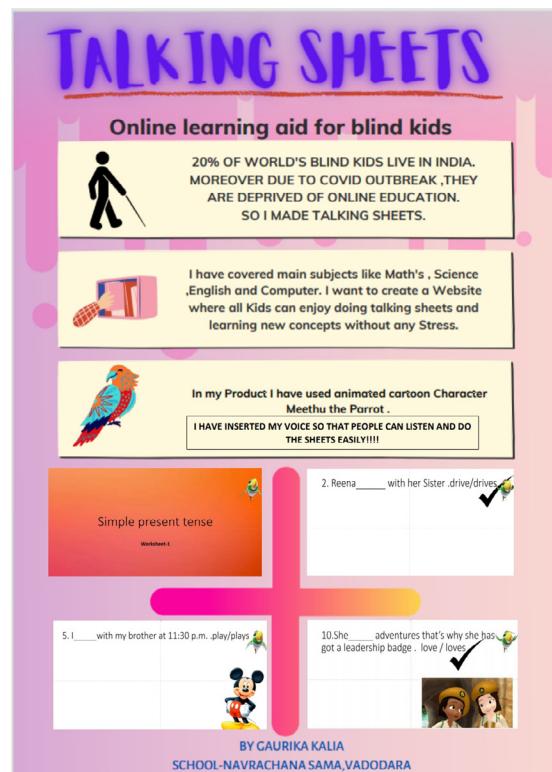
The young innovator says the pandemic has especially affected the education of lakhs of visually impaired children in India. Her project “Talking Sheets” is aimed at helping them in their education through a friendly online tool.

“Creating the content was the most exciting part of the journey,” she says, adding she did not face any difficult moment. She sees “Talking Sheets” expanding in the coming years and being used by visually impaired children in India and overseas.

Her favourite innovator is Arvind Gupta, who makes innovative and educational toys using household items. When she feels uninspired, Gaurika says she reads books by Sudha Murthy and Ruskin Bond and Mahatma Gandhi’s autobiography “The story of my experiments with truth.”

While her startup’s focus right now is on working for the visually impaired, the Vadodara girl says she would also like to work on problems such as pollution and waste management. Saving drying rivers is another challenge she wants to help address.

Gaurika believes more children can be encouraged to become innovators by making them aware of the problems around us and motivating them to think for potential solutions. She says the journey with CIF has been very informative and encouraging and helped in shaping her ideas.



45

**Founder's Name:** Apaar Khare

**Startup Name:** Thermoelectric Converter

**Standard:** IXth

**School:** Amity International School, Mayur Vihar

**City:** Delhi

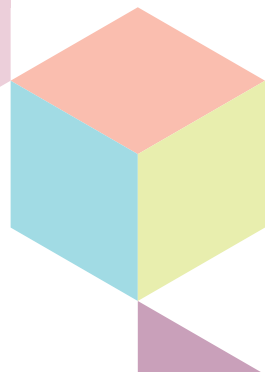
# A Converter To Produce Electricity From Waste Heat

## FOUNDER'S MANTRA



We cannot solve our problems with the same thinking we used when we created them.

- Albert Einstein



The Thermoelectric Converter uses waste heat released from any source and converts it into electricity in usable form. Storage will not be an issue with the electricity. The converter is economically feasible and can be used both in households and industrial areas.

Apaar was inspired by an incident at the peak of the summer season last year for his startup. While he was going home, the release of hot air from the back of his school's central air conditioning unit scorched him. "This compelled me to think how to use this heat energy going waste effectively," he says.

Through his startup, Apaar wants to minimise environmental damage and global warming caused by heat release by industrial and domestic appliances.

The most challenging part was developing an apparatus to capture the maximum possible heat that is released. The most exciting part of this project was to meet subject matter experts who have grass-root level experience.

His favourite innovator is Elon Musk, whose futuristic and innovative ideas for the betterment of humanity inspire and fascinate Apaar.

When feeling uninspired, Apaar plays the tabla. "This helps me concentrate and rejuvenate. Tabla has helped me find patience, concentration and spiritual connection, which helps me innovate and push my limits," he says.

According to Apaar, his journey with CIF has been great. "The support team, the organization and coordination were topnotch. The Bootcamp was very informative and gave me an insight into design thinking and the process of innovation and development," the young innovator says.





46

**Names Of Founders:** Dhruv Patel, Harsh Nai

**Startup Name:** Touch Me Not Tap

**Standard:** Xth

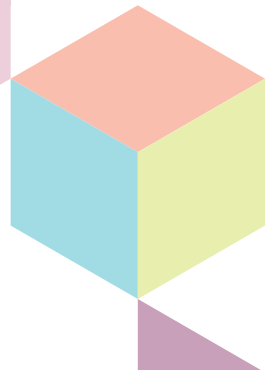
**School:** Shri Maharaja Rajendrasinh Vidyalaya

**City:** Rajpipla, Gujarat

# A Sensor-based Touchless Tap For Rural Areas

## FOUNDER'S MANTRA

“ Don't accept defeat till you win. ”



Touch Me Not Tap is a multi-functional sensor-based tap to cater to different needs. This affordable, innovative, and novel faucet can be used for several purposes, from washing hands to drinking water to a sanitiser dispenser. The tap is the perfect device to serve the community, especially in rural areas during the Covid-19 pandemic.

The outbreak of the pandemic inspired Dhruv and Harsh to come up with this idea. But, they found all sensor-based taps were more designed for urban use and were expensive. People in rural and tribal areas like the Narmada district from where the duo hails could not afford such costly devices. “So we aimed to design a touchless devices,” Dhruv says.

The two youngsters consider Elon Musk one of their favourite innovators and say he has drastically transformed many industries through his innovations.

Dhruv and his partner Harsh go to the science centre to explore and experiment when feeling down.

They want to see their startup idea catering to the basic sanitation needs of people in villages.

According to Dhruv, children interested in science should be selected and provided with all facilities, including internet, mentoring from experts and other support structure.

Describing their journey with CIF as “amazing,” the two youngsters say they get support regularly from the CIF.

The most exciting part was learning a new technology, concept designing and prototyping the tap. With no resources or instructors, the challenging part was to understand the coding.



47

**Founder's Name:** Hillol Rahman

**Startup Name:** Tree Climbing Device

**Standard:** XIIth

**School:** Brilliant Academy

**City:** Darrang, Assam

# Making Tree Climbing Easier, Preventing Avoidable Deaths

## FOUNDER'S MANTRA

“Life is a game,  
play it well.”



A tree climbing device, as the name suggests, is a machine that helps in climbing trees with less human effort and little cost.

Many people suffer injuries and some even lose their lives in climbing trees in the traditional way by using their hands and feet. Preventing avoidable deaths and injuries is the inspiration behind the device, according to the startup's founder Hillol.

Hillol believes his device can change the way people climb trees and do away with the huge risks involved in doing so.

Coming up with a design for the device was the most exciting and also the most difficult part of his innovative idea, says Hillol.

The young innovator sees his startup becoming a million-dollar entity and expanding across the world in the next few years. He also sees a large number of people who climb trees to earn their livelihood adopting his device. German serial entrepreneur Saygin Yalcin deeply inspires Hillol. When feeling uninspired, the youngster from Assam says he does workouts, plays different sports and watches motivational videos.

Going ahead, Hillol says he wants to research plastic replacement. He also wants to set up an online delivery business for selling vegetables and grocery items from the country's largest wholesale market in Kharupetia near his home. Dogmart is another project he plans to take up in the future.

In Hillol's opinion, more children can be encouraged to become innovators through conducting workshops in schools and various face-to-face initiatives.

The young innovator also believes the journey with CIF is not as exciting or interesting as expected because of sessions and interactions taking place in the online mode and not in-person.



48

**Founder's Name:** Hari Balaji P

**Startup Name:** TV-based Online Computer Using Raspberry Pi

**Standard:** VIIIth

**School:** Manchester International School

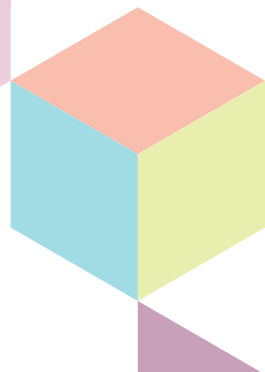
**City:** Coimbatore, Tamil Nadu

# Using Tiny And Affordable Computers To Spread Computing Knowledge

## FOUNDER'S MANTRA



Success is not a destination.  
Success is a journey and little  
things make big days, and  
difficulties do not mean the  
work is impossible.



Raspberry Pi computer works like a computer when connected to a TV set. The Raspberry Pi is a tiny and affordable computer that people can use to learn programming through fun and practical projects.

Through his startup idea, Hari wants to go for online connectivity with the help of Raspberry Pi computer and wants to spread the message of teaching basic computer science in schools throughout the country with it.

The young innovator says the whole startup journey has been exciting, but the most challenging part of developing his innovative idea was to find a new project, learn about it, discover it and execute it.

Hari is confident his idea has huge potential and his startup will become highly successful in the next few years.

Going ahead, Hari wants to work for the ecology by ensuring the growth of more trees, checking the use of plastic and effectively dealing with plastic waste. He also aims to extend help to stray animals and also wants people to use more gadgets.

The Coimbatore boy says Alexander Graham Bell is his favourite innovator because he invented the telephone, a device that brought the world closer.

When feeling uninspired, Hari says he reads biographies of great heroes and introspects about the reasons for feeling down to charge himself up.

According to the youngster, more children can be encouraged to become innovators by teaching them about new projects and not being forced into innovation.

Hari says during his journey with the CIF he has learnt about new inventions and innovators.



49

**Founder's Name:** Palak Prakash Chandankhede

**Startup Name:** Unnamed

**Standard:** IXth

**School:** School of Scholars

**City:** Akola

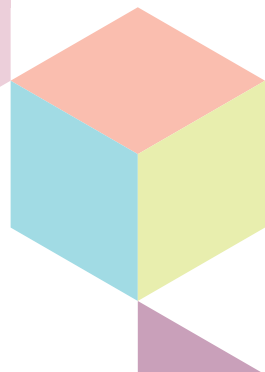
# Extending A Helping Hand To Farmers

## FOUNDER'S MANTRA

“

Once in your life, you need a doctor, a lawyer, a policeman, a preacher, but every day, three times a day, you need a farmer.

”





The Vaccu-cotton-picking machine, is an affordable vacuum cotton-picking machine that is aimed at helping cotton farmers overcome labour shortage.

The spate of farmer suicides in Palak's hometown Akola due to their poor condition was the inspiration behind the startup idea.

Palak says she sees the Vaccu – cotton-picking machine helping solve farmers' problems and prove to be a major step forward towards ushering in greater use of technology in agriculture in India.

Going by how strongly she feels about the condition of farmers, it is hardly surprising that when she is feeling low, Palak remembers the moments she saw desperate farmers attempting suicide. The youngster says those thoughts and the drive to do something to stop farmers from ending their lives fills her with new inspiration and new enthusiasm.

According to Palak, the most exciting part of her startup journey was also the most difficult. That was when she tried to develop a robot and attach hands to it so that it could work as she had envisioned.

While helping farmers is her top priority, the young innovator also wants to solve problems such as fires in ICU wards, exploding oxygen cylinders, etc. that have become a regular occurrence during Covid-19 times.

Palak says more children can be encouraged to become innovators through proper guidance and support as she has received.

The young innovator describes her journey with CIF as enthusiastic, encouraging, interesting and happy.

"I think this journey is the best thing I ever have experienced in my life," Palak sums up.



50

**Founder's Name:** Saket Merai

**Startup Name:** Wireless Power Transfer

**Standard:** VIth

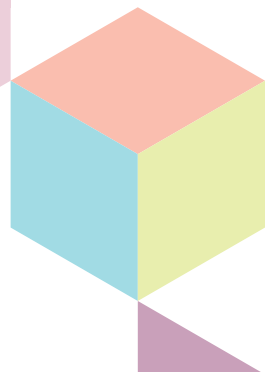
**School:** Gajera Global School

**City:** Surat

# A Device For Wireless Transfer Of Power

## FOUNDER'S MANTRA

“Where there is a  
will, there is a way.”



The startup's idea is a wireless system or device capable of conducting power that can help reduce power failures and make the power distribution system more efficient.

Founder Saket says the idea for the wireless power transfer was inspired by the Tesla Coil designed by inventor Nikola Tesla in 1891.

The young innovator from Surat says his idea has the potential to reduce the losses involved in transmission and distribution of electricity, lower electricity bills, and guard users from electrical shocks. According to Saket, the most exciting part of the startup journey was transforming his innovative idea into a reality. He also says he hasn't faced any great difficulties in implementing the project.

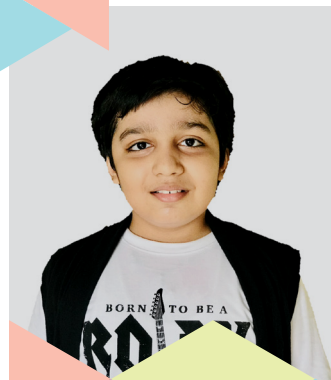
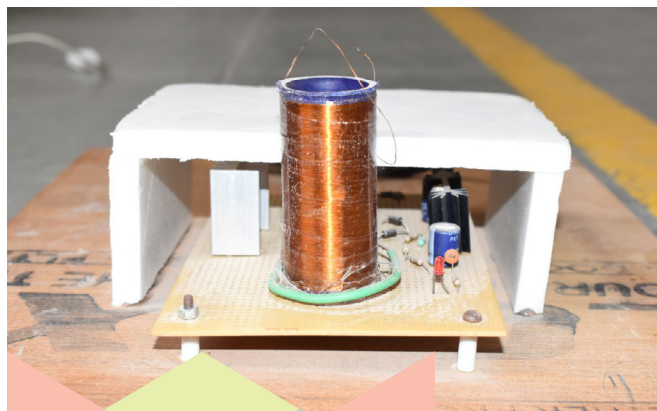
"I see my startup idea being adopted widely and the device being used in all places in the next five to seven years," he says about his expectations from the startup. Saket's favourite innovator is Nikola Tesla for "his impressive contribution to the design of the modern alternating-current electricity and betterment of the society."

When feeling uninspired, the young innovator thinks about new ideas and spends time working on his wireless power transfer device prototype.

Going ahead, the teenager says he wants to work towards reducing the dependence on fossil fuels and promoting greater use of renewable energy in vehicles, factories and homes.

"This is critical to protect our environment and Mother Earth," he says.

To encourage more children to become innovators, Saket says they must be made aware of the world of innovation and their efforts must also be recognised through certificates and gifts. He describes his journey with CIF as "a wonderful experience".



## Patrons



## Partners

