

Start.

Ideate. Innovate. Inspire.

MARCH 2019 NEWSLETTER - ISSUE 3



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Role of Universities in Catalyzing Innovation and Entrepreneurship

Prof. Jawahar Doreswamy
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It is not an understatement to say that there is a perfect storm with massive changes in technology, business and economy that is driving dramatic changes across the world. The upsurge of artificial intelligence (AI) and machine learning (ML) is driving digital transformation that is one of a kind in human history leading to experts calling this the fourth phase of industrial revolution or 'Industry 4.0'. This is not an isolated phenomenon but is a confluence of several factors leading to a great many opportunities as well as challenges across industries and academia. I would like to share my perspective on this and how we are approaching this at PES University, which turns 47 years old this year.

India's place in Information Technology (IT) is well known with an enviable track record (~\$160 Billion with ~4 Million people employed). The digital transformation that is happening will drive India to be a trillion-dollar digital economy. India has a rich ecosystem for driving digital innovation comprising of tech providers, service providers as well as a burgeoning startup sector.

India is the 3rd largest tech startup ecosystem in the world after US and China. Bengaluru ranks among the top 3 cities globally for launching tech startups. In fact, there has never been a better time for entrepreneurs, and we are fortunate that PES University is located at Bengaluru, the epicenter of much of the action in India.

Why is innovation and entrepreneurship (I&E) important to Universities / Higher education?

We are seeing a trend that emphasizes innovation and applied research in addition to teaching and learning in a university. The industry is placing a bigger emphasis on new graduates to come in with an innovative mindset and outlook as they embark on their career.

In addition to getting students ready for employment, it is our collective responsibility to also equip our graduates to have the ability to create employment, which is one of the hallmarks of entrepreneurship in any economy. There is also a small but rising percentage of students who are enthusiastic about starting an entrepreneurial journey earlier rather than later and a university is a great platform to enable this journey. The government also believes that innovation is a key constituent of university education and is reflected in the national university ranking metrics in India.

Some of the ingredients for career success are also part of the equation for being successful in entrepreneurship; leadership qualities that can energize and motivate like-minded individuals for accomplishing a mission, developing skills and the capability to execute in an agile fashion and finally, to empower others to reach their highest potential.

With this in mind, we established the Center for Innovation and Entrepreneurship (CIE) at PES University. We designed CIE to serve the multidimensional requirements of innovation and entrepreneurship and this takes the shape of courses, programs, makerspaces, inviting senior technical and business mentors, adequate funding and more. We hope that this will not only create a vibrant ecosystem but will also fast-track us to becoming one of the top universities in India.

This is a great opportunity for students to seize the offerings from CIE at PES University and develop entrepreneurial skills and actively contribute to the regional and national economy. I also welcome relevant stakeholders and co-travelers to partner with us on this journey to place India in a competitive position on the world startup ecosystem.



From the CIE Director's Desk

University Industry Linkages for Innovation and Entrepreneurship

Prof. Sathya Prasad
Director, CIE

Greetings and welcome to the 3rd CIE Newsletter created and produced entirely by a CIE student-led Newsletter team!

In this issue of the newsletter, I would like to touch upon the role and importance of University-Industry linkage and how this nexus is an important aspect for promoting student innovation and entrepreneurship (I&E) for all the stakeholders involved (students, faculty and industry at large).

Before delving into this, I would like to share with you the key things that have happened since the last publication of newsletter. CIE's inaugural course offering (Introduction to Entrepreneurship – Level 1, 2 Credits) was well received with 93 students (from various branches) completing the course. We have since kicked-off the follow-on course (Intermediate Entrepreneurship – Level 2, 2 Credits) with about 40 students from L1 taking it. We are also conducting two batches of the Level 1 course with over 136 students taking the Special Topics course.

The industry is no longer content with getting fresh graduates who are good at the theoretical aspects of engineering or adept in software/coding and/or hardware design. There are two aspects that the industry is looking for beyond the obvious:



1) Fresh graduates with an innovative mindset who are ready to not only work on a given task but also attempt to bring in new ideas and thoughts of solving problems in a creative manner or even question the status quo and bring in new problem statements.

2) Ability to apply the knowledge gained in the university to solve real-world challenges in a team environment and most often, under schedule/time constraints. This requires students to develop both the mindset (attitude, emotional quotient, ability to deal with missteps/failure, etc) and in stretching their imaginative and creative thinking.

From a university perspective, they would like students to work on solving real problems while getting exposed to contemporary frameworks and models being used in the industry. Universities also appreciate the research and development capabilities that can be found in the industry with a desire to have this expertise be shared with the students in the form of tech mentorship.

Therefore, there is great synergy between the desire-demands of both industries and universities. CIE has endeavored to find this common ground that benefits both the university/students and industry.





This has taken the form of 3 types of engagements with the industry:

- 1) short-term student projects (~6 weeks or ½ a semester) with well-defined problem sets
- 2) long-term student projects (~13 weeks or a full semester or more)
- 3) industry-sponsored innovation contests

I would like to cite a few examples covering all the types of engagements outlined above:

Long-term projects:

CIE has signed a 2 year MoU with a Fortune 50 MNC to work on innovation and research related to image processing (for autonomous cars) and speech processing for language-user-interface (LUI) for Indian vernacular languages. As part of this, the company recently organized a training session on artificial intelligence (AI), machine-learning (ML) and deep-learning (DL) which the students found to be very beneficial.

CIE has an engagement with Xinoa that allows students (& faculty) to work on industry-sponsored challenge/problem statements which require not just engineering skills but also creative/innovative approaches to solving non-trivial challenges. Xinoa not only shared the challenge statement (related to personalization of connected cars) from a Japanese car maker but also conducted a workshop on connected cars and a brainstorming session to harvest ideas. 7 students from 2 teams have qualified for the next level of the Xinoa-hosted ideathon for a multinational car company.



Short-term projects:

CIE worked with Intel on the Intel India Student Contest for Unity Asset & Game development where 10 Computer Science students (comprising of 3 teams) worked to create AR/VR implementation in response to a set of requirements given by Intel. Internal mentoring was done by the Dept. of Computer Science with weekly reviews by Intel. Students got a great opportunity to work on cutting-edge AR/VR implementation and present their work to Intel engineers and receive technical feedback.



Industry-sponsored innovation contests:

PES University was selected to be one of the 21 universities to be part of Microsoft CodeFunDo where the challenge statement was to apply AI/ML to predict (&/or mitigate the after effects of) natural disasters. 150+ students took part in this and as part of this innovation contest, Microsoft arranged for deep-dives for students on AI/ML topics, provided credits for cloud computing for running students' workload and technical mentorship, etc.

These are some examples of the symbiotic relationship we have strived to set up with the industry and hope that this type of engagement results in a win-win for both the university and the Industry.



Level 1- Introduction to Entrepreneurship

This course aims to provide students with an understanding of the nature of enterprise and entrepreneurship by introducing the role of the entrepreneur, innovation and technology in the entrepreneurial process. It is targeted towards the development of business that is increasingly led by innovation in technology. The elements covered in this course also serve as a foundation for the 'intrapreneurial' journey that some might decide to undertake.

Entrepreneurship is as much a mindset as it is about action. It involves building something from nothing and most successful entrepreneurs know how to manage and mitigate uncertainty and risk. As this is an introductory course, it will give an expansive view of the cycle of taking an idea to a product or solution and teach students to develop discipline, critical thinking, problem solving, teamwork and communication skills.

It is taught with a mix of interactive lectures, discussions and a final project. Students will be encouraged to delve deep into the entrepreneurial landscape, current scenarios and develop awareness of the startup environment.



Level 2 - Intermediate Entrepreneurship

This course is a follow-on to Introduction to Entrepreneurship - Level 1.

It enables students to put into practise things they had discovered in Level 1.

The focus of this course is to take action on multiple fronts – starting with identifying a real opportunity / challenge, developing a hypothesis about potential customers and customer segments, building a business model canvas followed by validation of all the hypotheses. This includes building a prototype and testing it with potential customers and refining the product or service idea and/or the business model.

The course will encourage several elements of entrepreneurial thinking, experiential learning, teamwork and above all, foster creativity and imagination to solve challenges in novel ways. Students work in teams, build prototypes, test assumptions through surveys, focus groups, interviews etc., and are encouraged to be open to creative thinking to solve problems and deal with ambiguity to develop ideas into potential products or solutions.





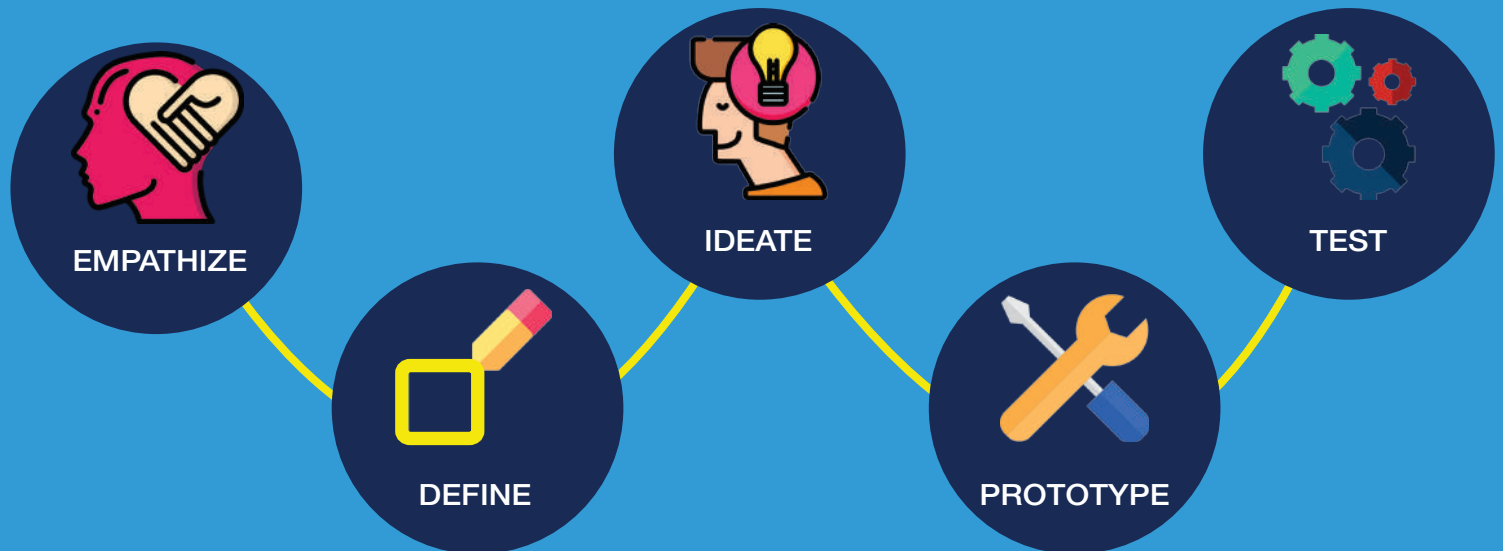
DESIGN THINKING SESSION



Why is innovation and entrepreneurship (I&E) important to Universities / Higher education?

We are seeing a trend that emphasizes innovation and applied research in addition to teaching and learning in a university. The industry is placing a bigger emphasis on new graduates to come in with an innovative mindset and outlook as they embark on their career.

Design thinking is a methodology used in ideation and development that provides a user-centered, iterative approach to solving problems. It urges the designer to follow 5 steps :



To introduce this handy tool to students, the session was peppered with time-bound tasks that touched upon all the 5 phases. The class reiterated the idea of having a universal design rather than concentrating on a minority of the customer base. To make this a hands-on task, teams were asked to design a doorknob and its positioning, forcing everyone to think out of the box and consider every angle. Teams were allowed to give constructive criticism and were asked to present a product pitch. The last challenge was a spin on the classic egg drop test. Teams were asked to build a case to protect their eggs and the challenge was to drop a heavy book from a significant height on each other's cases to test how well they held up.

The lively session drove home the point that design thinking was a human-centered, solution-focused flexible problem-solving process that the average person struggles with.

New Centre for Learning and Innovation in Cybersecurity

Prof. Prasad Honnavalli'
Director, C-ISFCR

This is the first article in a series that will feature other Centres of Excellence (CoE) at PES University engaged in building new capabilities that enhance our students' ability to learn and innovate in new technology/markets that are very rapidly evolving. We are pleased to feature the Centre for Information Security, Forensics and Cyber Resilience (C-ISFCR) headed by Prof. Prasad Honnavalli (Director of Centre & Professor in the Dept of Computer Science).



As technologies such as Cloud, Big Data, AI and IoT promise unparalleled growth opportunities, there is a greater risk of confidential data being maliciously collected, stored and disseminated.

Governments and organisations are facing the ever growing need to protect confidential information they collect, process and store from being stolen or modified by malicious State and non-State attackers [1].

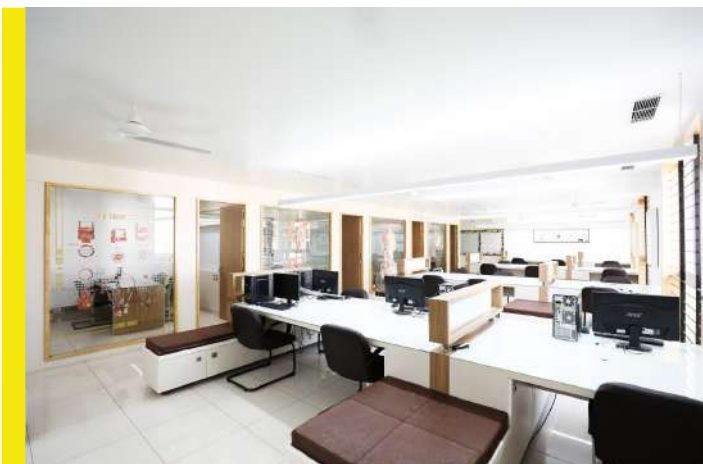
There is an acute shortage of skilled personnel in almost every position within cybersecurity. According to CyberSeek, an initiative funded by the National Initiative for Cybersecurity Education, the United States faced a shortfall of almost 314,000 cybersecurity professionals as of January 2019 against a current total cybersecurity workforce of 716,000 [2]. By 2022, the global cybersecurity workforce shortage is projected to reach upwards of 1.8 million unfilled positions. [3]



What is PES University doing?

PES University has set up the Centre for Information Security, Forensics and Cyber Resilience (C- ISFCR) to address this very issue. The centre focuses on four domains:

- Information security and Assurance : exposes students to the various Infosec vulnerabilities and challenges and teaches them to sustain the required security posture through secure operations.
- Digital Forensics and Digital evidence – exposes students to the intricacies of collecting and preserving digital evidence that are admissible in a court of law and the various techniques and skills of digital audits and root cause analysis to discover exploited vulnerabilities.
- Cyber law educates the students on the nuances and adaptations of the law for the cyber world.
- Cyber Resilience and Business continuity is a sober acknowledgment of the current state of our industry that we cannot guarantee absolute security. The focus here is on preparing, and devising methods to minimise collateral damage should a cyber incident occur.



For the benefit of students of PES University, the centre provides learning opportunities in all the current areas of Information Security such as

- OS Security, Secure programming,
- Database Security,
- Secure Web applications,
- IoT security,
- Mobile and Cloud Security
- Wired/Wireless Network security
- Cryptography
- Cyber-Physical systems.
- SCADA/Industry 4.0
- Blockchain /Smart contracts in Security
- Secure Operations and Testing

Note: The centre is located at B block, 11-14, 11 floor room 14. For more information, contact Prof. Prasad Honnavalli (prasad.honnavalli@gmail.com)

[1] Palo Alto Networks | The State of Cybersecurity in Asia-Pacific | White Paper

[2] CyberSeek, "Cybersecurity Supply/Demand Heat Map," accessed January 4, 2019, =<https://www.cyberseek.org/heat-map.html>.

[3] Frost & Sullivan, 2017 Global Information Security Workforce Study(2017),<https://iamcybersafe.org/wp-content/uploads/2017/06/europe-gisws-report.pdf>

CIE Timeline

One-year Journey

Nov to Dec 2017

Starting up and Exploring!

- CIE office comes up in PES campus
- Brainstorming the CIE charter with University Leadership
- Visited 10+ incubators & accelerators to gather insights

November 2017



Jan to Mar 2018

Basecamping!

- CIE goals, plans & roadmap1.0 created
- Kicked-off Basecamp; 90 attend the inaugural session
- 1st CIE student intern hired; student team formed for Makerspace planning
- Multiple student outreach channels setup: Web, PESU app, email
- 1st Decoding-the-Entrepreneur (DTE) session conducted; total of 9 Basecamp sessions held

Apr to May 2018

Bootcamping!

- 1st Bootcamp conceptualization completed
- 30 students selected based on interest & aptitude
- 1st Bootcamp held 28 May - 3 Jun; 7-day residential
- Curated content, experiential learning, 12 industry experts
- Chief Juror for Bootcamp: Dr Raghunath (IIT Madras)



Aug to Sep 2018 1st Semester @ CIE

- CIE startup perspective presented @ GVL 2018 at UC Berkeley
- 1000+ students covered under PES Bootstrap (innovation and entrepreneurship)
- The CIE Level 1 course started; 100 students (3rd & 5th sem) enroll in this 2-credit special topic
- 2 Decoding-the-Entrepreneur (DTE) sessions & industry experts invited for CIE Level1
- 3 teams successfully complete Intel India Student Contest for Unity Asset/Game Dev (Rs 1 Lac total prize)

and
Institute for Bootcamp
Residential program
Industry-led expert sessions (ILES)
(M-B)



December 2018

Oct to Nov 2018 Forging ahead!

- Finalization of multiple MoU's with Industry to promote student tech entrepreneurship
- Joint collaboration with CS Dept: Microsoft CodeFundo++ 2018 Contest with 200+ students
- Several ecosystem engagements: national-level jury panel, startup Mentor sessions US & India
- Enthusiastic feedback from students on 1st CIE course

Jun to Jul 2018 Summer @ CIE

- 4 workshops held during the summer break, 100+ students participate
- Students work on 20+ projects under the aegis of CS Dept, CoE for Healthcare and Info Security
- 6 students do their summer internship @ CIE

INNOVATION CORNER



The past year and the beginning of 2019 witnessed some of the most innovative developments in the field of technology.

We've picked some of the most enthralling innovations -

► CIMON (Crew Interactive MOBILE Companion) by Airbus & IBM

While Siri and Alexa gained popularity, CIMON left people in awe. The Floating AI Astronaut Assistant, only slightly bigger than a basketball, assists with experiments, repairs and also basic medical procedures. It is powered by IBM's Watson. CIMON can fly around, by sucking in air and expelling it through special tubes and is equipped with tools that allow it to recognise Alexander Gerst, the German astronaut with whom it will work.

Inspired by Professor Simon Wright's 'flying brain' with sensors, cameras and a speech processor in the 1978 cartoon series 'Captain Future', CIMON could bring in a new trend - from fic to fact.

Zephyr S HAPS (Solar High Altitude Pseudo-Satellite) by Airbus ◀

Airbus astonishes yet again with a solar-powered UAV. The first of its kind to fly in the stratosphere, the Zephyr S HAPS broke all records on August 5, 2018, by staying aloft for more than 25 days on its maiden flight. Armed with a sizeable array of the latest in imaging technology, it provides local satellite-like services under all weather conditions. It is capable of pioneering breakthroughs in disaster management, defence and environmental missions with only a control station on the ground, anywhere in the world.

Weighing less than 75 kg, the Zephyr S HAPS went all the way up to 70,000 feet comfortably, maintaining its elevation all through the night - an achievement untasted by other solar-powered planes.

► Mind-Controlled Robot

At the University of Illinois, researchers brought to the floor a mind-controlled robot which was developed to weld metal. Welding can thus be done hands-free, with the operator wearing an electroencephalography (EEG) cap, which measures the brain's electrical activity via the scalp. The operator is to choose an instruction from predefined ones which flicker on-screen, by staring at specific ones. This causes an electrical response in the brain that is detected and sent to the robot. The robot compares the electrical response with the flickering timings of the available options and thus executes the matched task.

DEEP DIVE

CRISPR-Cas9

CRISPR-Cas9 is a genome editing tool, a unique piece of technology that allows scientists and researchers to remove, add or alter sections of a DNA sequence.

How does it work?

It consists of two key molecules that introduce a mutation into the DNA. The enzyme, Cas9, acts like a pair of scissors and can cut the two strands of DNA at a specific location in the genome. The second molecule - the guide RNA (gRNA) - consists of a small piece of pre-designed RNA sequence, located within a longer RNA scaffold, which binds to the DNA and guides Cas9 to the right spot. Despite all its advantages, there is a low risk of off-target mutations and incomplete editing, leading to mosaicism.

What are its implications?

The CRISPR-Cas9 system is the simplest, cheapest and most versatile method of genetic manipulation in the world today. There is extensive speculation surrounding its applications, mainly in human genome editing. It could have important implications in the world of genetic ailments, potentially even being used to treat diseases like cancer and hepatitis B. Currently, many of the proposed applications involve editing non-reproductive cells.

The first CRISPR babies

In the November of 2018, a Chinese scientist, He Jiankui, used CRISPR-Cas9 to modify the CCR5 gene in two embryos, which were then implanted in a woman. The gene contains a protein that some strains of HIV use to affect immune cells, and the modification was modelled on a mutation naturally carried by some, rendering them immune to HIV. The identities of the subjects have been kept secret. He has been widely criticized for being irresponsible; various researchers believe that the tech in its current state is not accurate or safe enough. Some claim to have found evidence of mosaicism in the twins' genes. Jiankui has violated numerous health and safety regulations, and is under fire for his actions. They have been described as 'unconscionable', and his recklessness may hamper the progress of research on genetic manipulation as a whole.

The Ethical Dilemma

While most people are in support of using it somatically, concerns have been raised about the morality of its use in germline editing, which will affect generations to come. There is no concrete data about its side effects. Biological phenotypes are not determined by a single gene alone; our current understanding is not sufficient to adequately weigh the risks and benefits of this procedure.

It also poses serious questions about what genes should be edited, and the social backlash a test subject might experience. For instance, modifying a disease-carrying gene, genes responsible for physical traits and genes seen as undesirable, have vastly different implications.

Who, then, decides what sort of traits are 'desirable'?

There are countless ways in which editing of this sort could create stigma, but it could also create a fairer, more satisfied world. It would revolutionise genetics in its entirety, and quell the effects of the lottery of birth with respect to health.

Genome editing, today, is one of the fields of scientific research that most captures the public imagination. The dream of the perfect civilisation has close ties with what we have in our DNA; being able to modify it would redefine the way we see ourselves in the grand scheme of things, and CRISPR is the first step in allowing the human race to do just that.





- CTO, Co-Founder, Nemocare Wellness Pvt Ltd
- Fellowship in Healthcare Entrepreneurship at the Center For Healthcare Entrepreneurship, Indian Institute Of Technology - Hyderabad
- B.E. in Telecommunication Engineering, PES Institute of Technology, Bangalore (Class of 2014).

He is an entrepreneur working in the Healthcare and Med-Tech space. His interests span the areas of smart wearables, IoT with Machine Learning and User Experience Design. He has published two international journal papers and has filed for two patents, one of which was during his B.E. days at PESIT.

1) In your opinion, what are some of the highlights of your career?

- Nemocare Wellness – Funded by the Bill and Melinda Gates Foundation under the Grand Challenges Exploration Call 19.
- Silicon Valley Challenge Fellow conferred at the Action for India Forum 2018.
- Awarded the Social Entrepreneur Scholarship at SOCAP 2018.
- Received the Gold medal for Innovation at IIA International Innovation Fair 2017.
- Smart City Challenge 4.0 winner, hosted by 1M1B and Global Finalist of Global Social Venture Challenge 2018 by UC Berkeley.
- Recognition for innovation in Science and Technology by the Gov. of Karnataka and TEQIP, 2014.
- Final year project - Won the Best Project Award at the National Level Super Project Contest at Intel hosted by IESA
- Adjudged Runners-Up at the Next Big Idea 2013 at IIM-B and supported by Intel and the Department of Science and Technology, Gov. Of India.

2) How did you start your entrepreneurial journey?

It all started at a workshop on technology-driven entrepreneurship called Intel Youth Enterprise during my 3rd year. It transformed the way I started looking at businesses and brought in faith that business can be driven by technology. Subsequently, I started honing my entrepreneurial skills. My startup at college was mentored at NSRCEL IIM-B as part of the Intel Next Big Idea 2013 contest. The MIT Media Labs Design Innovation workshop exposed me to rapid prototyping, design thinking and the world of collaborative teams. I worked with a doctor and a designer. Today is just an extended dream that I am living from my college days.

3) How has your startup been able to create impact?

My startup is developing a smart IoT-enabled wearable for newborns to continuously track their vitals and provide alerts in cases of distress conditions like apnea and hypothermia for timely intervention, thereby reducing infant mortality and morbidity rates. Being a healthcare startup, owing to the long regulatory pathway and clinical validations, we are yet to sell our product commercially and will be doing so soon. We are doing closed pilots with our clinical partners. The impact we project is that we will be touching the lives of 9,00,000 babies in the next five years and we are striving towards that goal.

4) If you had a chance to start your career over again, what would you do differently? What is your advice to someone just starting out?

I would have worked with a startup in my very first year. In my second year, I would have chased a problem statement and subsequently worked on a prototype. I would have loved to have explored more. As for advice, find good mentors who can help you through the roughest times. My mentors and parents are the reason I am here today. Start working on your passion at the earliest. College life is when there is minimal pressure and the ecosystem is at its best to support entrepreneurship. PES-CIE is a great initiative, something I had always wanted during my college days. Everything one will need to successfully start a venture and sustain it is available on a platter. It is up to the individual to best utilize it.

International Youth Delegation, Tunisia

It was a moment of immense pride and honour to be selected as the Youth Delegate/ Ambassador of India in the Indian Youth Delegation Contingent, held in Tunisia from September 30 to October 7, 2018, consisting of only women delegates for the first time. The International Youth Delegation is conducted by the International Co-operation cell, Ministry of Youth Affairs and Sports, Government of India, UN Flagship. One of its objectives is to empower our youth to give them a platform to voice their opinions. Immediately after our return, each of us wrote to the PM and The Ministry of Youth Affairs about similar programmes we could implement in our country. On the 1st of October, I had the opportunity to talk at Elgazala Tchnopark about how innovation and entrepreneurship is the key to being a good worker and how having an entrepreneurial approach is crucial in all walks of life.



The Minister of State For External Affairs,



13 Indian youth ambassadors, accompanied by 2 officials from the Ministry of Youth Affairs and Ministry of Home Affairs, India

On 2nd October, 2018 I had the honour to present to a panel of various intellectuals such as Dr Badra Gaaloul- President for International Strategies, Security and Military, UN about various GOI initiatives such as Make in India, Swacch Bharath Abhiyaan, Jan Dhan Yojana etc. We were able to interact with office-bearers at various platforms, from the delegation at the Tunisian Parliament with several politicians to interactions with local governing bodies. We also had the opportunity to visit some of Tunisia's best universities and experience its cultural heritage. I am now more aware of the inner concerns, hopes, and dreams of a neighbourhood, a city, a nation, and global community. This conference has helped me develop leadership skills, self-confidence and attain greater understanding of the complexities of the world around me.

Unnati Scheme, Gov. of Karnataka

With the objective of catering to youth driven towards entrepreneurship, the Government of Karnataka has launched the Unnati Scheme for budding entrepreneurs to support entrepreneurship, sustainable development, and social welfare. The scheme provides beneficiaries with a sum of Rs. 50 lakhs to support their endeavours. In this regard, my startup is about aquaponics. Aquaponics is the farming of fish and plants in a single re-circulatory system. The waste from fish becomes nutrients for plants, which in turn purify the water for the fish. History's most sustainable form of agriculture has broken out of its seed and has begun to take root. In the farms of the future, you'll find no waste water and harsh insecticides but a mutually-balanced ecosystem that yields fast-growing organic produce- the freshest, toxin-free fish that money can buy. Aquaponics tries to use this high-tech farming technology where vegetables and fish are grown in unison, a next generation symbiotic system that just might change the way we grow, harvest and eat the food of tomorrow. Our mission is to build an organic ecosystem to produce wholesome food at affordable costs without generating waste. We currently have 4 ponds with 15,000 fishes. Our farm is located at Mysore, and we are a team of 6. Our estimated gross income for this financial year is INR 63 Lakhs. Some of our products are - Fish: several Indian and Chinese major carps such as Tilapia, Amoor, Catla, Rohu Vegetables: Lettuce, Cherry Tomato, Basil, Spinach, Broccoli.

Prakalpa 2019

Here at CIE, we value team-based learning and consider it to be one of the founding pillars in the entrepreneurial process. Empirically speaking, the level of engagement and retention observed in students that participated in team-based activities is much higher than that of a conventional classroom!

This was the inspiration behind the CIE exhibits at PRAKALPA 2019, the annual project exhibition of PES University. Unlike a traditional project display, we wanted our participants to feel more involved in our exhibits whilst gaining insights on what the entrepreneurial world is like. This was achieved through a combination of workshops, project displays and dioramas, making our expo stand out from the crowd.

Some of the stellar projects that were on display included a student built radio station, an innovative take on what a smart home assistant could be as well as a diorama that differentiated the CIE classroom from a conventional one!

The aforementioned workshop involved a clever twist on the infamous double diamond approach of solving problems. To begin with, the participants had to identify the characteristics of everyday objects and then expand upon the challenges associated with each of the characteristics. Subsequently, the challenges were narrowed down based on the order of importance and then a solution was proposed by the participants, essentially letting them innovate on an existing product in just 4 simple steps!

The event turned out to be a huge success, with an influx of about 400 enthusiastic visitors, from students to the top management executives of PES, including our chancellor - Dr. M.R Doreswamy.



CIE Summer Programs - A curtain-raiser

CIE has planned a few programs in the Summer after the current semester.

- Duration - 5-days (30 hours) Monday to Friday, 9am to 5 pm
- 2 Credits offered for each program

PROGRAM NAME	PREREQUISITES
CIE Level 1 - Introduction to Entrepreneurship (open for South Campus students also)	Must have completed 1st year B - Tech
CIE Level 2 - Intermediate Entrepreneurship	Must have completed CIE Level 1 Course
CIE Level 3 - Advanced Course to Entrepreneurship	Must have completed CIE Level 2
CIE Level 1 - Smart IOT Workshop	Must have completed 1st year B - Tech

Students' feedback for the CIE Courses



"For the writing-focused folk - More written 'assignments' or tasks. Individual ones, not necessarily as a part of the course/grade. There never will be enough time for everyone to keep presenting. Written tasks would force us to get quality reading and analysis done. And if kept short, it would force us to gather our thoughts and condense the material. No matter how much we read, it's only as good as the presentation and delivery, in the context of I&E. Specific and word count limited questions would be a wonderful tool to help us learn to think and phrase things appropriately. Conversely, a full-fledged write-up/report would be great, too."

"I would like to know how the entrepreneurial industry works and learn to take up my own stand if I were to start a business. I would like to also know how similar an entrepreneur is to a freelancer as I would prefer to freelance."

"I would really really love to see case studies of entrepreneurs like Mark Cuban or Donald Trump or Zuckerberg or Gary Vee - about the prime decisions they made and the market scenario at that point. It would really help to get into the mind of the entrepreneur. All this could be summed up in a 5 minute video or one of us could come up with a review on an entrepreneur every week."

"Just have some more paper surveys and demos where the teacher shows us how it actually is in real life to do business and more on how the entrepreneur should use his profits from the business."

UPCOMING EVENTS

World Startup Expo Series

A massive gathering of exhibitors, entrepreneurs, frontrunners in technology, national and international speakers, backers and investors from different parts of the world to network for the betterment of technology and mankind.

Dates : March 2019, July 2019, August 2019, September 2019

Cities : Hyderabad, Bangalore, New Delhi, Mumbai

<http://www.worldstartuexpo.com/>

World Blockchain Technology Conclave

Conference sessions with leading experts in the blockchain industry analysing the impact of developments in blockchain on various industries, and the challenges and opportunities that come with them.

Dates : March 14-15, 2019

City : Bangalore

<https://1point21gws.com/blockchainsummit/bangalore/>

Cosmo Tech Expo

India's biggest manufacturing solutions trade show, with innovative solutions to personal care problem solutions and a chance to network with experts in the industry.

Dates : July 22-23, 2019

IoT India Congress

Confluence of digital technology stakeholders, providing a platform for Internet of Things in India.

Dates : August 22-23, 2019

City : Bangalore

<http://www.iotindiacongress.com/>

City : New Delhi

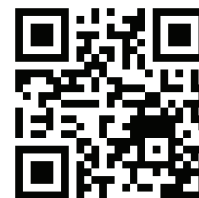
TechSparks

A benchmark platform where startups, emerging business leaders, corporate executives, policy makers, investors, innovators and media houses converge to discuss, debate and develop ideas and engagements that build and shape the technology, innovation and entrepreneurship narrative in India.

Dates : October 5-6, 2019

City : Bangalore

<https://events.yourstory.com/techsparks>



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