Department of Instrumentation and Control

MAPAN

THE MEASURE OF PROGRESS

Issue 15, January 2020

From HOD's Desk — Dr. Anagha Panditrao

This is the fifteen issue of our department newsletter. With this being the third year of autonomous status, the department as a whole is well adapting to the new challenges and targets like Industry 4.0 and IoT. With a view of preparing the students to be industry ready, the Internship program is introduced under autonomy for the third year students. I feel proud in sharing the success of the Internship program for our third year students. With the support of the faculty, the department was able to secure internship for all the students of the third year class. This Internship activity also helped the department to take further the connect with various industries. The department is also keen on the continuing development of its faculty. I acclaim my faculty for positively adjusting to the new challenges. Holding up with the Industry connect, the department has signed MoUs with Emerson and IFM. This will surely help to further enhance the overall growth of the department. The students are no way behind in participating and winning accolades in various extra-curricular activities like sports and drama. Heartiest Congratulations to all the winners of the various curricular and extra-curricular events. My best wishes to everyone for their future.

PICTURE WALL OF ACTIVITES IN YEAR 2018-2019

- Mitsubishi Electric Cup
- Industrial Visit
- Hardware Hackathon @ VIT
- Forbes Marshall Award
- Teachers' Day
- ISA Student Chapter
- Alumnae @ Emerson
- Department Show
- BE Fashion Show
- IDEATHONE—2019 @ Bulgaria

Industry 4.0: A great future

Industry 4.0

Promises to make life better and more savvy, only if adopted at the right time

We are moving into an era where mindset is important along with the skills. The mindset will be our ability to adopt, collaborate and bridge cross competencies in specialised areas and number of smart and connected technologies like Robotics, Analytics, AI, Cognitive Technologies, Nanotechnology, Wearables, IoT, Quantum Computing, Advanced Materials etc. will become embedded within organizations, peoples and assets. Industry 4.0 is the new disruption in the world of manufacturing globally and now in India. Rather than just connected technology, people are looking for sustainable and smart manufacturing, which has to be scalable in future. To ensure sustainable and smart manufacturing four areas namely, Smart Innovation, Smart Factory, Smart Solutions and Smart Supply Chain are required.

What many people don't consider is that the crux of Industry 4.0 is people, not technology.

Excerpt from Manufacturing Today India by Molly R

"The best way to prepare for life is a combination of formal traditional education, reading, seminars and workshops, coupled with experience as well as tapping into the knowledge of experienced people."

– Derric Yuh Ndim

'*Introduction to VI*' by Dr. Agashe (COEP), '*Product Development Workshop*' by Dr. Atul Joshi, '*PLC Programming using Codesys3.5*' by Mr. Subramani (IFM Engineering PVT LTD) and '*Introduction to IoT and Basics of Python Programming*' by Mrs. Prajakta Mehta (Carrier Trail) were the workshops arranged for S.Y and T. Y. B.Tech students.

Workshops & Seminars

Dr. Swati Madhe conducted a session on '*Digital Signal Processing Applications*' at D.Y. Patil's RAIT, Nerul.

Dr. Vikas Hajare conducted a session during AICTE sponsored FDP on '*H-infinity Robust Adaptive and Optimum Control*' at Manipal Institute of Technology, Manipal, Karnataka.

Dr. Nivedita Daimiwal, Dr. Swati Madhe & Dr. Revati Shriram attended a workshop on '*Python based Artificial Intelligence*'.

Dr. Vikas Hajare, Prof. Yashwant Adhav, Dr. Revati Shriram & Dr. Swati Madhe completed Diploma *TRIZ Level 1— by TRIZ Association of Asia GENTRIZ.*

Dr. Vikas Hajare, Prof. Yashwant Adhav, Dr. Revati Shriram and Dr. Swati Madhe attended a pre conference tutorial on '*How to Develop a New Product that will be a Market Winner* by Alex Lyubomirskiy.

Dr. Revati Shriram, Dr. Nivedita Daimiwal & Prof. Yashwant Adhav attended TEQIP III—3rd Winter School on '*Optimization and Optimal Control: A Data base Approach*'.

Prof. Pratima Kulkarni and Prof. Amruta Bahulikar completed NPTEL course on '*Outcome based Pedagogic Principles for Effective Teaching*' and '*Introduction to Programming in C*'.

Dr. Vaishali Upadhye and Dr. Swati Madhe attended a workshop on '*Introduction to IOT and Basics of Python Programming*' and ISA sponsored seminar on '*Industrial Internet of Things*'.

Dr. Vikas Hajare attended two weeks FDP on '*Entrepreneurship*' organised by Department of Science & Technology, Government of India.

Dr. Vaishali Upadhye attended TEQIP III—on '*Outcome Based Education*'.

Prof. H. T. Patil and Dr. Vikas Hajare completed a course on '*Automation Studio Basic + Visualization Basic +MARP Technology*'.

Department Toppers of Year 2018—2019

Ms. Rajashree Patil
(9.24/10)

Ms. Shivani Shendre
(8.95/10)

Ms. Vaidehi Deoskar
(9.29/10)

Ms. Devika Deshpande
(9.13/10)

Ms. Mamata Magdum
*(8.72/10)*

CONGRATULATIONS!!
&
Best Wishes for Future Endeavours

Class of 2019

Best Outgoing Student

Best Outgoing Student of the Year 2018-2019 is MS. VAIDEHI PAWAR. Ms. Vaidehi was part of ROBOCON 2016 team in 1st year and Captain of ROBOCON 2017 in 2nd year. She gained a lot of technical knowledge and hands on experience in these 2 years. While doing these activities she maintained good score. She has also received scholarship from Gate Academy. Later in the 3rd year, Ms. Vaidehi along with some of her classmates participated in National Level Automation Competition known as 3rd Mitsubishi Electric Cup. Her team received 10th Appreciation Prize under the leadership of Ms. Vaidehi. She has participated and conduct many events in our college like Contraption, Ideation, Racer Tracer, IET Mini Project and other college events like Business Idea competition held in IMDR (Her team secured 1st place out of all MBA students), winners of ISA state level competition held at VIT Pune, winners of Business Idea competition held in Cummins and Runner Ups in IET mini project competition. Ms. Vaidehi was a Branch Representative of Instrumentation and Control in her 4th year. She is currently working with Honeywell-HBT as a System Engineer.
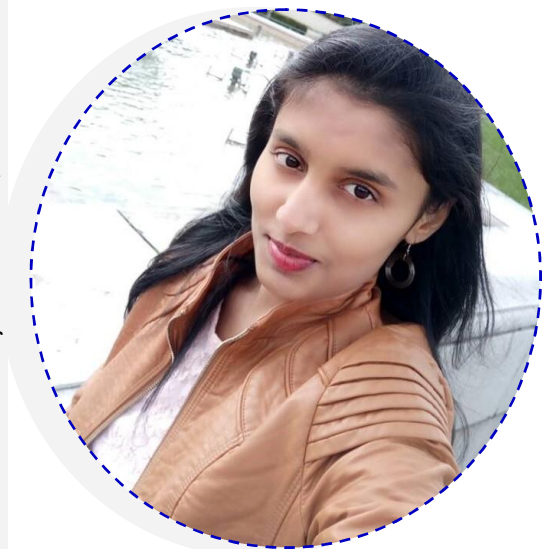
*Excerpt from
Forbes Technology Council*

Technology is advancing every-day. Members of Forbes Technology Council expect following seven next big things in technology.

1. BLOCKCHAIN

This is the new way of exchanging information without involving a middleman. Blockchain is not cryptocurrency, and it can fir into enterprises as a part of their enterprise solutions—*Neeraj Sabhrawal, Xavient Digital*

2. INTERNET OF THINGS

The next breakthrough will involve the combination of the IoT with other leading technologies like AI & Blockchain. Together

"Since we live in an age of innovation, a practical education must prepare a man for work that does not yet exist and cannot yet be clearly defined."

– Peter F. Drucker

S.Y. B.Tech students of our department visited Virtual Lab and Control Lab of COEP, Pune. These visits has enhanced practical knowledge of students in the field of Instrumentation and Control. T.Y. B.Tech students visited India Meteorological Department, Pune. This visit was helpful for students to understand practical concepts in Envi-

Technology Advancement In Future

these technologies will create transformational value, first in industrial sector & then in consumer market—*Maciej Kranz, Cisco Systems*

3. HEALTHCARE

Advances in healthcare are needed and are being tackled, through predictive analysis using genomic data, which can predict diseases or through novel drug therapeutics such as RNA targeting—*Alexandro Pando, Xyrupt*

4. QUANTUM BATTERIES

When we break through with dense battery technology, such as applying quantum physics and other methods to get beyond simple chemical batteries, it will rock our world and solar power will eclipse fossil fuels—*Rick Braddy, SoftNAInc*

5. HUMAN AND ANN

New way to communicate with new technologies including AI. It could be some new kind of wearable. It might be some mechanism to fit a receiver inside a body. Something to seamlessly connect humans with the immense power of AI—*Vikram Joshi, Pulsd*

6. INCREMENTAL IMPROVEMENTS

Recently Fast Field Programmable Gate Arrays were added to Intel Processors, which will accelerate extreme real-time IO and ML. These incremental improvements that lower costs, improve efficiency and drive better customer outcomes—*Danny Allan, Veeam Software.*

7. GENERATIVE ADVERSARIAL NET

This is a way of pitting two neural networks against each other in order to train one of them to produce new things. For example it may generate realistic looking pictures. We're not quite there yet but we will be soon. When that happens, it could conceivably become impossible to separate real information from false. For better or worse, that will be a very big thing—*Ben Lee, Rootstrap.*

Industrial Visits

ronmental Instrumentation. The third year students of our department visited Sugar factory in Chakan. The students got to see various unit operations carried out in a sugar factory. These operations were carried out to convert the raw product sugarcane to final product sugar. Students got the experience of watching all the products and tasting the sugar at the end. This trip enhanced their experience to understand their curriculum better by getting exposure to practical applicability of various theoretical concepts.

LinkedIn—15 Skills Companies Need Most in 2020

What are the most vital skills required in today's fast-paced, rapidly changing work environment? It's a question that gnaws at employers and employees alike. LinkedIn, network of more than 660 million professionals and over 20 million jobs reveals the 15 most in demand skills for 2020. The list contains thr top 5 Soft Skills and top 10 Hard Skills.

Top 5 Soft Skills:

1. Creativity: Organization requires people who can creatively approach problems and tasks across all business roles. This ranges from Software Engineering to HR.
2. Persuasion: Leaders and recruitment managers place a premium on individuals who can explain the 'WHY'. To advance careers, candidate must effectively communicate ideas and persuade colleagues.
3. Collaboration: More than individuals , it's high functioning teams that can accomplish more for a business.
4. Adaptability: Only constant in life & in business—is change. Candidate must embrace that reality & make sure to show up with a positive attitude & open minded professionalism.
5. Emotional Intelligence: It is the ability to perceive, evaluate & respond to your own emotions & the emotions of others.

Top 10 Hard Skills:

1. Blockchain: It was born to support cryptocurrency. It's novel way to store, validate, authorise & move data across the internet has evolved to securely store & send any digital asset.
2. Cloud Computing: A vast swathe of companies today are built & run on the cloud. They need talent who have the shills to help them drive technical architecture, design & delivery of cloud systems like Microsoft Azure.
3. Analytical Reasoning: Data has become the foundation of every single business. Organizations want talent who can make sense of it & uncover insights that drive the best decisions for the business.
4. Artificial Intelligence: People who can harness the power of AI, ML & neutral language processing are the ones who will help organizations deliver more relevant, personalized & innovative products & services.
5. UX Design: As average attention span of consumers decreases every year, they have little patience for products that aren't intuitive. Enter UX Design. Organizations need more expertise to help them build more human-centric products & experiences.
6. Business Analysis: It's one of the few hard skills every professional should have, as most roles require some level of business analysis to make decisions.
7. Affiliate Marketing: With the decline of traditional advertising, AM is a must have hard skill. It leverages company partnerships or influencers that are hyper targeted to a particular audience.
8. Sales: Every company needs great sales people-those who can effectively manage a sales team, understand the sales funnel, work with cross functional partners & sell into the highest levels of the business.
9. Scientific Computing: This is the skill held by data science professionals, engineers & software architects. Company needs more professionals that can develop ML models & apply statistical and analytical approaches to large data sets using program like Python, MATLAB.
10. Video Production: Video production continues to be a priority for companies. Cisco estimates that video will account for 82 & of global internet traffics in 2020.

Excerpt from CNBC-TV18

Patent Filed & Published

PATENTS PUBLISHED

Ms. Rishita Bansal & Dr. Atul Joshi, *'Trespasser Inhibition Control System and Method Thereof'*.

Ms. Uttunga Shinde, Ms. Krutikka Punekar, Ms. Swapnali Satpute & Prof. Yashwant Adhav, *'System and Method for Hardness Detection of Water'*.

Ms. Sharvari Inamdar, Ms. Marugali Bhat, Ms. Devayani Kulkarni, Ms. Gauri Kulkarni & Dr. Revati Shriram, *'System and Method for Prognosis of Parkinson's Disease'*

Ms. Radhika Nibandhe, Ms. Akshata Shinde, Ms. Sonia Kumbhoj, Ms. Vaidehi Vaidya & Dr. Atul Joshi, *'System for Automatic Recycling of Plastic Molded Articles and Method Thereof'*.

PATENTS FILED

Ms. Vaidehi Desokar has filed a Patent on *'System for Indicating Colour Fading of Clothes and Method Therefor'*.

Ms. Rashmi Atre, Ms. Akshata Shinde, Ms. Radhika Nibhande, Ms. Anchal Guleria & Dr. Revati Shriram, *'Non-Invasive System for Detection of Parkinson's Disease and Method Therefor'*.

Dr. Nivedita Daimiwal & Dr. Revati Shriram have filed a Patent on *'System and Method for Arthritis Detection'*.

Ms. Neenu Gorge, Ms. Jinu James, Ms. Shrinidhi Kulkarni, Ms. Sneha Parsewar & Dr. Revati Shriram *'System and Method for Detection of Neurogenerative Disease using Speech and Body Odour Signature'*

Mitsubishi Electric Cup
Collaborate. Innovate. Excel.

National Level Competition for Factory Automation

Ms. Madhura Pimpale, *Ms Archana Rane*, *Ms. Pooja Shinde* and *Ms. Snajivani Barge* were the winners of 4th Mitsubishi Electric Cup 2019—National Level Competition for Factory Automation arranged at Haryana. They have won 'Bronze Cup' with cash prize of 50,000 INR and Trophy. The team has also won the prestigious prize of 'Most Popular Team' at the same event. The team has developed a '*Intelligent Traffic Control System using PLC and IoT'*. **Dr. Vikas Hajare** and **Dr. Vaishali Upadhye** has served as a faculty mentor.

Hearty Congratulations!

Mitsubishi Electric Cup 2019

Mitsubishi Electric India has launched a science and technology competition, "Mitsubishi Electric Cup" (for undergraduates and postgraduate engineering students) on a yearly basis, offering opportunities for outstanding talents. From the submitted proposals, the top 35 teams across the nation are shortlisted for implementation of proposed idea. For the designing of the project, Mitsubishi Electric provides hands on training on Factory Automation components (PLC, HMI, MCBs,VFD,etc) and also provides the components to every team. We had participated in the 4th edition of Mitsubishi Electric Cup (MEC 2019) which was held in Manav Rachna University, Faridabad, Haryana. The theme for MEC 2019 was *"Digital Industry through Smart Imagination"*. Under this theme we proposed an idea entitled *"Intelligent Traffic Control System Using PLC and IoT"*. The projects were assessed by Mitsubishi Officials and other experts in the field of automation. It gives us immense pride to tell you that we won *Bronze Cup* with a cash prize of ₹ 50,000 and *Most Popular Team Award* with a cash prize of ₹ 10,000. The credit for our achievement goes to extremely supportive faculty of our department and Director Dr. Madhuri Khambete.

- Pooja, Madhura, Archana & Sanjivani

Traffic congestion is a severe problem in many cities of the world today. It would be extremely useful if a camera "vision" system could be set up to view a stretch of road without causing any disturbance to the traffic flow, at the same time it can be capable of providing the required traffic flow measurements. In this project, we have designed a system that will help in controlling the traffic system using PLC and IoT. In this system we are manipulating the traffic light timings depending on the density of vehicles on the road. At the same time we are uploading the traffic density data on the cloud for further traffic analysis. In our project we have used PLC (Programmable Logic Controller) as master and image processing module i.e. Raspberry Pi as slave. The reason for using PLC as Master is because it is mechanically robust, it has a very less scanning time and it can control multiple devices at the same time. The image processing module will capture images when PLC sends request to the module. After doing the required image processing, it will send data to the PLC and the PLC will accordingly take the required action. Highest preference given to Emergency conditions.

OmiSonic—Ultrasonic Cleaning Device

OmiSonic—Worlds First Wireless Ultrasonic Cleaning Device

Cleans cloths, vegetables, jewellery at a microscopic level anywhere, anytime with the power of wireless *Ultrasonic Technology!*

This device uses powerful ultrasonic waves to clean almost anything at a microscopic level. Whether it's *Dirt, Wine, Rust, or anything,* OmiSonic easily removes stains and get your stuff clean and shining. It's *fully wireless* and can be used hassle-free while travelling, camping or backpacking. Can wash up to 4.4 lbs of items in a single run.

Omi Sonic uses ultrasonic cleaning technology to wash your items. The device generates ultrasonic waves that create thousands of microscopic bubbles in the water. These bubbles float to your item and implode, forming a vacuum that sucks out dirt, particles, and bacteria lodged in your clothing, fruits, jewellery or items. Because the bubbles are microscopic in size, they have the ability to pull out particles that are deeply lodged in your item. The bubble can go into corners, cracks, and crevices previously unreachable, and the force of the vacuum is powerful enough to dislodge the particles stuck there. When thousands of such micro-cleaning bubbles are floating around the cleaning load, it gives the deepest clean. This device is launched in the market in October 2019.

Excerpt from www.kickstarter.com/projects/omisonic

Doctorate

Prof. Revati V. Shriram has completed her Doctorate from Sathyabama University, Chennai. Her Doctoral Thesis Topic was

 "Coherence Analysis of Electroencephalogram and Photoplethysmogram"

Prof. Vaishali Upadhye has completed her Doctorate from Savitribai Phule Pune University, Pune. Her Doctoral Thesis Topic was

 "Design and Development of One Dimensional Ultrasound Transducer with Special Reference to Open Channel Flow Metering"

Prof. Nivedita Daimiwal has completed her Doctorate from Sathyabama University, Chennai. Her Doctoral Thesis Topic was

 "Design and Implementation of CPPG Sensor for Brain Mapping using fMRI as a Gold Standard"

Prof. Dipali Ramdasi has completed her Doctorate from Savitribai Phule Pune University, Pune. Her Doctoral Thesis Topic was

"Parametric Modelling of Sensing Techniques for Detection of Nitroaromatic Explosives"

Congratulations on your Doctorate

AI Inside Your Mouth - Colgate & Oral-B

Colgate Plaqless Pro Smart Electric Toothbrush and the Oral-B iO rely on Artificial Intelligence and the app in your phone to manage your dental health. At the *Consumer Electronics Show (CES) 2020 in Las Vegas*, Colgate and Oral-B, two names well known in the dental care space, have unveiled Smart Toothbrush. And these pair with your smartphone via Bluetooth to a Colgate Connect App on phone to add the cool AI tricks to the experience of brushing your teeth. This will provide precise information in real time that is specific to each mouth. And that will neatly lead on to the distinct feedback regarding the brushing technique of every individual, based on the data collected. The app will tell you in real time of you've missed a spot while brushing, the history of how well (or how badly) you have brushed and customized oral care tips as well.

Excerpt from NEWS 18.com
by
Vishal Mathur

Publications by Students & Faculty

"No research is ever quite complete. It is the glory of a good bit of work that it opens the way for something still better, and this repeatedly leads to its own eclipse"

– Mervin Gordon

Madhura Deshmane & Swati Madhe, "*ECG Based Biometric Human Identification Using Convolutional Neural Network in Smart Health Applications*", IEEE International Conference on Computing Communication Control and Automation, ICCUBEA 2018, Pune, 16th – 18th Aug 2018.

Akansha Pole & Revati Shriram, "3-*D Medical Image Compression by Using HEVC*", IEEE International Conference on Computing Communication Control and Automation, ICCUBEA 2018, Pune, 16th –18th Aug 2018.

Swati Madhe & Raghunath Holambe, "*Design of Time-Frequency Localized Filter Bank Using Modified Particle Swarm Optimization*", IEEE International Conference on Intelligent Systems Design and Applications (ISDA 2018), Vellore, 6th—7th Dec 2018.

Vaidehi Deoskar, Pooja Kulkarni, Tejaswini Dengade, Revati Shriram & Mrugali Bhat, "*Workload Assessment based on Physiological Parameters*", International Conference on Computational Intelligence & Informatics, ICCII 2018, JNTU H'bad, 28th—29th Dec 2018.

Jinu James, Neenu George, Srinidhi Kulkarni, Sneha Parsewar, Revati Shriram & Mrugali Bhat, "*Detection of Parkinson's Disease through Speech Signatures*", International Conference on Computational Intelligence & Informatics, ICCII 2018, JNTU H'bad, 28th—29th Dec 2018.

Revati Shriram & Nivedita Daimiwal, "*Regression Analysis of Coherence between Concurrent EEG-EEG & EEG-CPPG Signals from Prefrontal Cortex During Music Evoked Emotions*", Journal of Information Science and Engineering (JISE), Vol-35, No-3, ISSN: 1016 – 2364, Apr 2019.

Yashwant Adhav & Nikita Bolbhat, "*Automatic Pipe Cutting Machine*", International Journal of Scientific Research and Review, Vol 8, Issue 6, Jun 2019.

Placement & Internships for year 2018— 2019

Aditya Birla Group—Ms. Jinu James, Ms. Nikita Bolbhat & Ms. Mamata Magdum

Air Products—Ms. Prajakta Chandratre & Ms. Pranjali Rokade

Emerson—Ms. Gayatri Dandawate, Ms. Shriya Joshi, Ms. Pooja Kulkarni, Ms. Ameya Manure & Ms. Swarali Patil

FL Smith—Ms. Shrinidhi Kulkarni

GE—Ms. Devika Deshpande

Simense—Ms. Gayatri Yadav

Honeywell—Ms. Vaidehi Deoskar, Ms. Rucha Dhume, Ms. Priti Gujar, Ms. Soumya Gupta, Ms. Niyani Jadhav, Ms. Neenu George, Ms. Varada Kulkarni, Ms. Shivani Mude, Ms. Deepali Pandit, Ms. Rajashri Patil, Ms. Vaidehi Pawar, Ms. Amruta Pawar, Ms. Likhita Polla, Ms. Awanti Sadre, Ms. Shivani Shendre, Ms. Jeshtha Shirolkar, Ms. Devhti Somwase & Ms. Rashmi Yeole

Sterling Wilson—Ms. Abhilasha Salunkhe & Ms. Ashwini Uchale

Thermax—Ms. Manisha Mundada

Tata Projects—Ms. Shalmali Moghe & Ms. Anushree Khangar

SUMMER INTERNSHIP

This year all the T.Y.B Tech students were able to secure internship in various industries like Boeing, BARC, EMERSON, Deenanath Mangeshkar, Forbes Marshall, Endress+Hauser, High Energy Material Research Lab, Larson & Turbo, ONGC, Unitech Automation, Venus Automation, Thermax India LTD, RIJ Electrical Private LTD, Tetra Pack India PVT LTD, SPA Instruments PVT LTD, TATA Motors and many more.

Three students of S.Y.B Tech went for an International Summer Internship to USA, Italy & Bulgaria.

EyeDrive—Holographic Car Assistant

Super Wide virtual hologram

Electrostatic transparent and reflective film

High contrast transmitive screen

High Brightness Multilayer Surface

Ultra white reflector

Highly directional Light Extractor

Day and Night Sensor
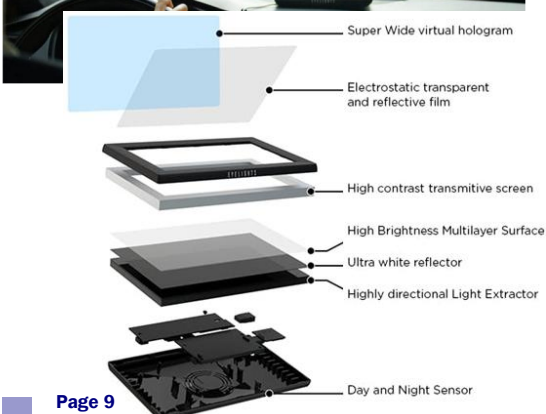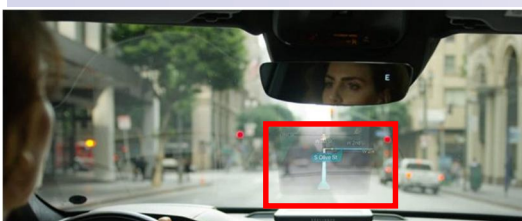
This is an innovative display for your car windshield that puts your GPS route firmly in your field of vision, meaning you don't have to take your eyes off the road ahead.

EyeDrive offers a safe way to get information from your phone apps while driving and without endangering yourself and others. The company says EyeDrive's holographic display is 4000 nits, which is ten times brighter than other solutions in the market. Its brightness is automatically controllable that it works the same during both day and night time. It comes with EyeDrive Gesture Control which is truly intuitive wireless technology. Its sensor uses infrared technology to detect your hand movements and establish different actions accordingly. In addition to holographic display technology, it comes with touchless gesture control, voice control, a wireless backup camera, full-car compatibility and full-app compatibility. Its display is fully transparent which does not block your view that you need to see. It accesses the information 10 times faster compared to your phone.

Forbes Marshall Project Award

Like every year, Forbes Marshal Award Ceremony was held this year in the month of August 2019. The award was bagged by *Ms. Shriya Joshi, Ms. Varada Kulkarni* and *Ms. Prachi Admuthe* under the guidance of *Dr. Anagha Panditrao. Mr. Anant Gokhale of San Telequip* served as an external guide for the award winning project. The title of their project was

"Asset Tracking using GPS and RF Technology"

Hearty Congratulations to the winning team!

"It takes less time to do things right than to explain why you did it wrong."
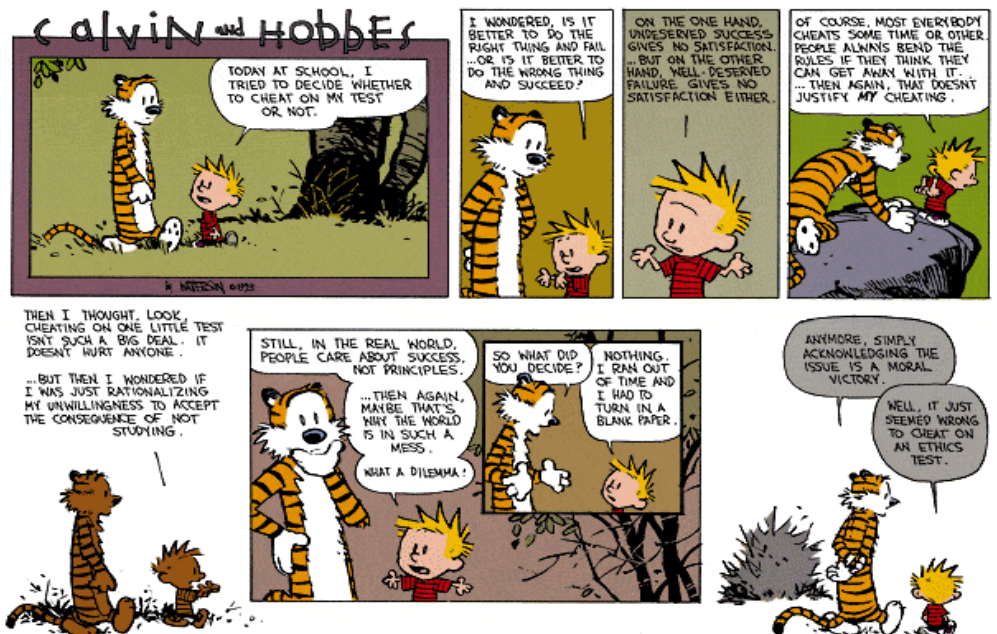
– Henry Wadsworth Longfellow

Abstract: Asset tracking refers to the method of tracking physical assets, either by scanning barcode labels attached to it using GPS, BLE or RF which broadcast their location. These technologies can also be used for indoor and outdoor tracking of living organisms wearing the device. The objective of the proposed work is to develop 'Asset Tracker System using GPS & RF Technology' for ornithological applications such as migration patterns of birds, travelling directions and disturbances during their breeding periods etc. This tracking device can further be used for transportation and for labour related machinery. System will consists of GPS module signal conditioned with TI chip set and CC1310 microcontroller chip. This device will be placed on the bird using straps and as the bird travels the device will catch RF and the information about its location will be stored using GPS sensor. A separate receiving device laptop/tablet will receive this data. The operator can download information like location, speed, time, temperature and direction.

Calvin and Hobbes ... Piece of Wisdom

Nidhi Prayas Grant

NIDHI PRAYAS

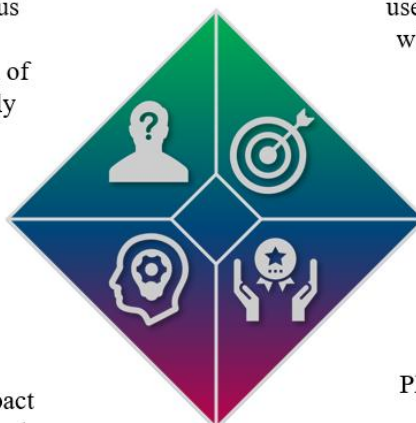| IDEA	PROTOTYPE	PRODUCT
To generate innovative solutions relevant to the local and global problems	To enable translation of an innovative idea to a prototype	To build a vibrant innovation ecosystem.

Problem

Currently physicians are dotting on discussion with a patients about the various symptoms seen/felt before stating the medication. No method for early detection of Parkinson's Disease is available. Currently available tests are very expensive and invasive. Quantitative Measure for Parkinson's Disease is not available.

Mission

To develop a low cost device which can be used for mass screening so that early detection will be possible for starting early medication for further reduction in loss of neurons.

Solution

Inexpensive Diagnostics Tool for early detection of PD. Prototype is simple, compact and inexpensive. It is a non-invasive method for Parkinson's Disease prediction.

Benefits

Prototype will be beneficial to Neuro Physicians as a non-invasive diagnostics tool. It can be used for Mass Screening during annual check-ups.

Ms. Neenu George, *Ms. Jinu James*, *Ms. Shrinidhi Kulkarni* and *Ms. Sneha Parsewar* received Nidhi Prayas Prototype Grant of 4,50,000 INR. Developed prototype will be beneficial to Neuro Physicians as a diagnostic tool for Parkinson's Disease. *Dr. Revati Shriram* was the faculty mentor for this project.

Hearty Congratulations to the team members!

Student Achievements

Ms. Purva Bhoir, a Basketball player was winner this year in various National Level competitions like ZEST 2019 (by COEP, Pune), SUMMITE 18 (by MIT, Pune), Basket Tournament (by SPPU, Pune) and DAMINI 2019 (by MKSSS, Pune)

Ms. Shamika Ghodke was selected as a 'Schneider Electric Campus Ace', this is the first ever Campus Ambassador program organized by Schneider Electric.

Ms. Yugashree Bhamare was a second runner up of Hard Talk competition at VIT.

Ms. Shamika Ghodke and her team was the Best Decision Team at International Engineering Competitions IDEATHONE — 2019, during her International Internship at Technical University of Sofia, Bulgaria.

More than 50 students have participated in various curricular and extra curricular intercollegiate activities during the year 2018-2019.

"Practice isn't the thing you do once your are good. It's the thing you do that makes you good."

- Malcolm Gladwell

MKSSS's Cummins College of
Engineering for Women, Karvenagar,
Pune—411052, Maharshtra, INDIA

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Fax: 020-25311499
Email: administrator@cumminscollege.in

**MKSSS's
CUMMINS COLLEGE OF ENGINEERING FOR WOMEN**

**An autonomous Institute affiliated to
Savitribai Phule Pune University**

cumminscollege.org

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Student Volunteers: Ms. Madhu Athanikar
Ms. Anushka George
Ms. Dipika Deogadkar

Institute Vision and Mission:

Vision

To be globally renowned institute for imparting quality education and to develop women leaders I engineering and technology.

Mission

To develop women professionals who are academically and technically competent with strong professional ethics.

Department Vision and Mission:

Vision

To develop the department as a center of excellence in Instrumentation and Control Engineering

Mission

1. *To develop students with strong foundation of Instrumentation and Control Engineering*

2. *To develop logical thinking ability, analytical skills, soft skills& create awareness about professional ethics*

3. *To provide conducive environment to the students for higher studies and research*

Alumnae Corner

Dept of Instrumentation and Control is thankful to our alumnae for their support through out the last year. The involvement of alumnae in supporting and providing contributions voluntarily to our department is important for maintaining and expanding a institute's development. They are the effective role model and are very easily accepted by the students. In year 2018-2019 our department alumnae have helped us in many ways viz by conducting guest lectures and sharing their experiences about time management, self discipline etc. They have extended their support by serving as an examiner for projects and for practical/oral exams. They have also contributed by providing their expertise in developing new study programme at our department. Alumnae supported us financially by contributing towards the 'Bhaubeej Nidhi' fund to reduce the financial burden of underprivileged students form our parent institution.

Thank you for your support!