# ECHO

## Computer Department Newsletter

## VISION

**To equip women with excellent education in Computer Engineering enabling them to play significant leadership roles in technology and society.**



**"COMPUTER SCIENCE IS THE OPERATING SYSTEM OF ALL INNOVATION"**
**- STEVE BALMER**

# MISSION

1. Impart excellent education, necessary skills, training and experimentation capabilities in the field of computer science and engineering.

2. Create a vibrant and intellectually stimulating environment for students to promote innovative and multidisciplinary real world problem solving.

3. Develop women professionals and imbibe work ethics and leadership skills in them, thereby helping them pursue successful career and contribute to science and technology.

4. Collaborate with industry and other universities to help create competent computer professionals.

5. Strive to fulfil the expectations of all relevant stakeholders.

# Program Educational Objectives (PEOs)

1. To prepare students for academic competence, to be employed as computer professionals, for industry, higher studies, research and entrepreneurship to significantly contribute to the society at large.

2. To develop students fundamental knowledge related to mathematics, science, computer science, computer engineering and to make them capable of providing solutions to challenging problems and multidisciplinary problems.
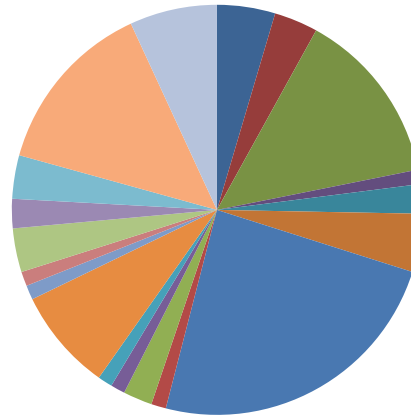
3. To enrich students with soft skills, leadership skills, professional skills and work ethic to make them good computer professionals and role models for future generations.

4. To prepare students capable of self- learning, to have the ability to adapt to changes and to possess the ability to understand the impact of engineering on society and humankind.

# Program Specific Outcomes (PSOs)

1. Graduates capable of working in various domains, solving problems by applying knowledge and skills from Software Development, Networking, Databases, Internet of Things, and Embedded systems.

2. Graduates capable of developing, maintaining software services, software products and embedded systems by applying the entire software developments by applying the entire software development life cycle.
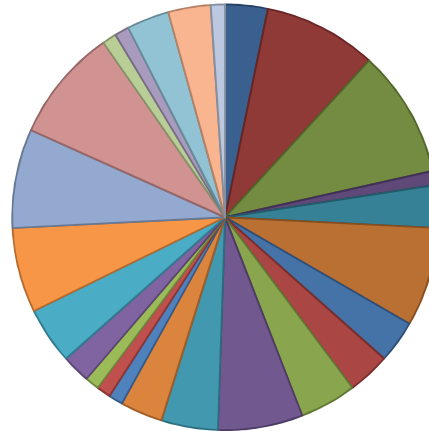
# PLACEMENTS 2019
# NUMBER OF STUDENTS PLACED

Total number of students placed: **180**



- Goldman Sachs(4)
- SAP(3)
- Walmart Labs(12)
- Xilinx(1)
- WDC(2)
- Deutsche Bank(4)
- Citi(21)
- Dhruva(1)
- Shell (2)
- Avaya(1)
- Schlumberger(1)
- Baxter(7)
- Espressif(1)
- Publicis Sapient(1)
- Siemens PLM(3)
- Mastercard(2)
- Philips(3)
- UBS(12)
- PWC(6)

**Companies with CTC 8 LPA above**
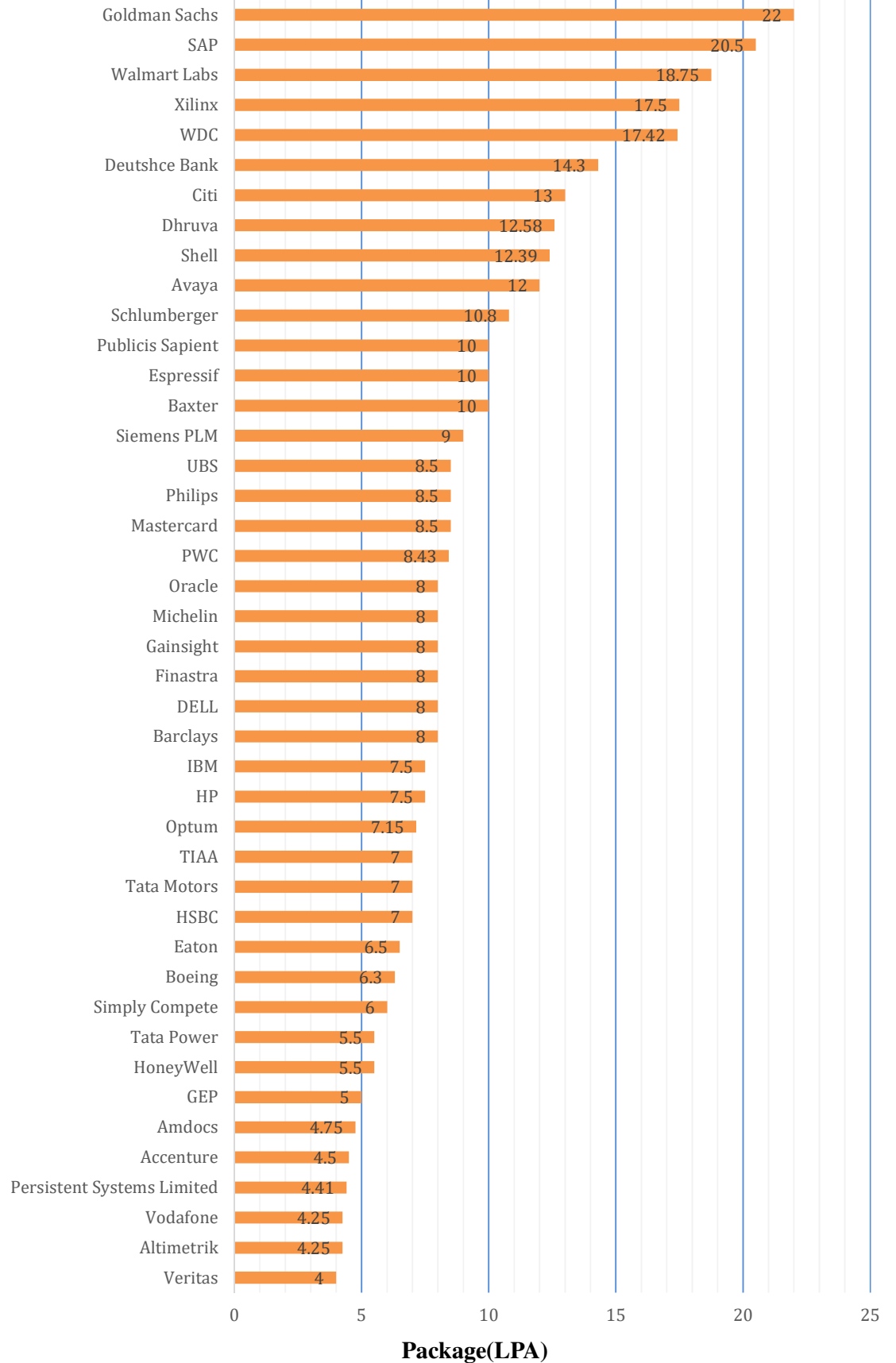


- Barclays(3)
- DELL(8)
- Finastra(9)
- Gainsight(1)
- Michelin(3)
- Oracle(7)
- HP(3)
- IBM(3)
- Optum(4)
- HSBC(6)
- Tata Motors(4)
- TIAA(3)
- Eaton(1)
- Boeing(1)
- Simply Compete(1)
- HoneyWell(2)
- Tata Power(4)
- GEP(6)
- Amdocs(7)
- Accenture(8)
- Persistent System Limited(1)
- Altimetrik(1)
- Vodafone(3)
- Veritas(3)
- Coupa(1)

**Companies with CTC 8 LPA and below**

# Salary offered by the companies

Average
Salary
**9 LPA**

| Company | Package(LPA) |
|---|---|
| Goldman Sachs | 22 |
| SAP | 20.5 |
| Walmart Labs | 18.75 |
| Xilinx | 17.5 |
| WDC | 17.42 |
| Deutshce Bank | 14.3 |
| Citi | 13 |
| Dhruva | 12.58 |
| Shell | 12.39 |
| Avaya | 12 |
| Schlumberger | 10.8 |
| Publicis Sapient | 10 |
| Espressif | 10 |
| Baxter | 10 |
| Siemens PLM | 9 |
| UBS | 8.5 |
| Philips | 8.5 |
| Mastercard | 8.5 |
| PWC | 8.43 |
| Oracle | 8 |
| Michelin | 8 |
| Gainsight | 8 |
| Finastra | 8 |
| DELL | 8 |
| Barclays | 8 |
| IBM | 7.5 |
| HP | 7.5 |
| Optum | 7.15 |
| TIAA | 7 |
| Tata Motors | 7 |
| HSBC | 7 |
| Eaton | 6.5 |
| Boeing | 6.3 |
| Simply Compete | 6 |
| Tata Power | 5.5 |
| HoneyWell | 5.5 |
| GEP | 5 |
| Amdocs | 4.75 |
| Accenture | 4.5 |
| Persistent Systems Limited | 4.41 |
| Vodafone | 4.25 |
| Altimetrik | 4.25 |
| Veritas | 4 |

**Package(LPA)**

# STUDENT ACHIEVEMENTS

# FACULTY

## Special Achievements

1. Shivani Ladkat and Aishwarya Narahari Kashid from TY were selected as "Young Peace Ambassador 2019" of the Wholesome Leadership Development Programme 2019 at "The ASHA Center - Lila Poonawalla Foundation" in August 2019.

## Co-curricular Achievements

1. Shreya Patil from TY received third prize in "ACM-W Chapter, Code-It" organized by CCOEW on October 5, 2019.

## Sports Achievements

1. Vaishnavi Kahire was selected at the Zonal Level Rope Mallakhamb Competition organized by SPPU in September 2019.

2. Vaishnavi Kahire from BE received second prize in the Zonal Level Rope Mallakhamb Competition organized by SPPU in September 2019.

3. Nimita Joshi from SY won Chess Championship at West Zone Inter University Chess Competition.

4. Sanjana Date from SY was Winning Team member for Basketball in "National Level Summit 2019" organized by MIT-WPU Pune in September 2019.

5. Sanjana Date from SY was second runner-up in Intercollegiate Competition for Basketball organized by SPPU, Pune.

## Achievements

1. Dr. Shubhangi Tikhe completed her Ph.D from Bharat University, Chennai on June 20, 2019
2. Dr. Anjali Naik completed her Ph.D from Bharat University, Chennai on August 2, 2019
3. Ms. Jyoti Langhi completed her M.E from MMCOE,SPPU, Pune in August 2019

## Resource Person

1. Mrs. Rakhi Dongaonkar was the M.Tech Project Examiner at PRMIT & R, Badnera, Amravati University on July 13, 2019
2. Mr. Hitrendra Khairnar and Dr.Sunita Jahirabadkar were nominee as Members, BoS in Engg,Science and Humanities at Sanjivani College of Engineering, Kopargaon on July 20, 2019
3. Dr. Supriya Kelkar was the Session chair for the domain Image ,Voice and Signal Processing at International Conference on Computational Science and Applications at School of Computer Engineering and Technology, MIT World Peace University, Pune in association with Springer from August 7- August 9, 2019
4. Dr. Chaaya Gosavi was the Paper Reviewer for the area Signal Processing by IET at IET on July 28, 2019
5. Dr. Chhaya Gosavi was appointed as an External Examiner for S.Y. M.Tech (Computer Engg.) at VIIT, Pune on August 20, 2019
6. Dr. Supriya Kelkar was the BOS member at Department of Technology, Pune in August 2019
7. Dr. Sunita Jahirabadkar was the Expert lecture at Department of Technology, Pune in August 2019

8. Dr. Sunita Jahirabadkar has been appointed as the Academic Research Coordinator (ARC) for SPPU, Pune for the next three years.

## Book publication

1. Mrs. Pranjali Deshpande published a book titled "Blockchain Technology" in August 2019 under Technical Publications with ISBN-10:9389420016, ISBN-13: 978-9389420012
2. Mrs. Pranjali Deshpande published a book titled "Data Warehousing and Data Mining" in December 2019 under Technical Publications with ISBN-10:938942093X, ISBN-13: 978-9389420920

## Patents Filed

1. Dr. Shubhangi Tikhe filed a patent on July 24, 2019 titled "Development of Intelligent Algorithm to Find Elements of Tooth Pathology from Intra Oral Radiography"
2. Dr. Shubhangi Tikhe filed a patent on July 5, 2019 titled "Multipoint Search Algorithm for Automatic Segmentation"
3. Dr. Anjali Naik filed a patent on July 24, 2019 titled "Development of Intelligent Algorithm to find Osteoporosis susceptibility from Orthopantomogram"
4. Dr. Anjali Naik filed a patent on July 13, 2019 titled "Automatic strip segmentation (ASS) Algorithm for segmentation of mandible cortex from digital optima"
5. Prof. Madhuri Tasgaonkar with students filed a patent on November 15, 2019 titled "A System And Method For Capturing User Gestures to Interact With Virtual Environment"

## Faculty Publication

1. Dr. Supriya M.Kelkar's published a paper on the topic "Fault Diagnosis for Distributed Systems using Accuracy Technique" got published in the First International Conference on Advances in Electrical and Computer Technologies 2019 (ICAECT-2019) ,Springer Lecture Notes in Electrical Engineering (LNEE) Series on April 26-27, 2019, Coimbatore, (TN) Vol.3 SCOPUS

2. Mrs. Madhuri Tasgaonkar's paper titled "Red Profile Moments for Haemorrhage Classification in Diabetic Retinal Fundus Images" got published in Springer Nature – Pattern Recognition and Image Analysis Journal Metrics June 17, 2019,ISSN -1054-6618 (Print Version), ISSN -1555-6212 (electronics version) Vol.29, Issue 2

## Conferences attended by the faculty

1. Mr. Hitendra Khairnar participated in Symposium on Internet of Things (IoT) (SIoT-2K19) organized by COEP,Pune in association with IET Pune Local Network on November 2, 2019.

## Workshops attended in 2019-2020

1. Dr. Sunita Jahirabadkar completed a workshop based on a 12 week NPTEL course on "Patent law for engineers and scientists" from Jan-April 2019 at CCOEW, Pune.
2. Dr. Neeta Maitre attended a workshop on Parallel Computing Summer School (PCSS) from May 27 to May 31, 2019 at CCOEW, Pune.
3. Mrs. Nilofer Attar, Mrs. Geetanjali Salunkhe and Mrs. Sulakshana Nagpurkar completed an 8 week NPTEL course on "Big Data Computing" workshop from Feb 25 to April 28, 2019 at CCOEW, Pune.

4. Dr. Chhaya Gosavi and Mr. Hitendra Khairnar attended a Faculty Development Program (FDP) by Shivaji University on "Data Science", PMMMNMTT, MHRD, GoU from 10th to June 16, 2019 at Zeal college of engineering and research, Narhe, Pune.

5. Dr. Chhaya Gosavi and Mr. Hitendra Khairnar attended a one day FDP by Rubics on "Rubics Data Science" on June 14, 2019 at Zeal College of engineering and research, Narhe, Pune.

6. Dr. S.S.Deshpande, Dr. S.A. Jahirabadkar, Mr. A.N. Muchrikar, Mrs. A.U. Hajare and Mrs. V.S. Pimprale attended a seminar on ACM India Workshop on Assessment on June 28, 2019 at Department of technology, SPPU, Pune.

7. Mr. Hitendra Khairnar attended an IBM Faculty Development Program from June 17 to June 21, 2019 at IBM India, Bangalore

8. Mrs. Meenal Kamlakar attended an FDP for Cyber Security from June 10 to June 16, 2019 at Smt. Kashibai Navale College of Engineering, Pune.

9. Mrs. Meenal Kamlakar attended an FDP for Data Science from June 17 to June 22, 2019 at AISSMS College of engineering Kennedy Road, Pune.

10. Dr. Anjali Naik attended an FDP for Machine Learning in the area of "Pattern Recognition and Computer Vision" from September 16 to September 28, 2019 at CCOEW, Pune.

11. Dr. Neeta Maitre attended an FDP for NPTEL- AICTE Knowledge Management from July to September, 2019 at CCOEW, Pune.

12. Dr. Neeta Maitre attended a Training Program in Website Development in Wordpress Technology from June 13 to July 5, 2019 at Spree Marketing.

13. Mrs. Nutan Deshmukh and Mrs. Varsha Pimprale attended an FDP for NPTEL-AICTE Introduction to programming in C from July to September, 2019 at CCOEW, Pune.

14. Mrs. Nutan Deshmukh and Mrs. Aparna Hajare attended a workshop on "Being a Leader and the Effective Exercise of Leadership: Ontological/ Phenomenological Model" from July 22 to July 31, 2019 at CCOEW, Pune.

15. Mrs. Madhuri Tasgaonkar, Mrs. Nutan Deshmukh, Mrs. V.S. Pimprale, Dr. Anjali Naik, Dr. Sunita Jahirabadkar, Mr. Hitendra Khairnar, Mr. Saurabh Mengale, Mrs. Sakshi Mandke, Mrs. Vaishali S. Salgar, Mrs. Shilpa Pant, Mrs. Rakhi Dongaonkar, Mrs. Nilofer Attar, Mrs. Pranjali Deshpande, Mrs. Sharayu Mirasdar, Mrs. Sayali Sapkal, Mrs. Sanjivani Mane, Mrs. Sulakshana Nagpurkar, Mrs. Namita Tandale and Mr. Harshad Mhaswade attended an FDP for Cyber Security from November 4 to November 9, 2019 at CCOEW, Pune.

## Workshops arranged in 2019-2020

1. Prof. Meenal Kamlakar arranged a workshop on Faculty Development Program by Shivaji University on "Cyber Security", PMMMNMTT, MHRD, GoU from November 4 to November 9, 2019. It was conducted by Mrs.Pradnya Pophalikar and Mrs. Seema Dixit. The target audience was students and faculties of any branch of engineering and science industry.

## Guest Lectures

1. Prof. S. P Mengale arranged a lecture on 'Cyber Crime from the lens of Cyber Police' was delivered by Mr. Rajkumar Waghchaure, Senior PI, Pune Cyber Police Cell on August 29, 2019 for Final Year students who have opted for the elective.

2. Dr. Supriya Kelkar and Prof. R. A. Dongaonkar arranged an Inspirational Speech on 'Careers in IT' by Ms. Mansi Malhotra on September 4, 2019 for TY students.

3. Dr. Sunita Jahirabadkar and Dr. Neeta Maitre arranged a talk on 'Diversity and Ethics' by Ms. Kranti Athalye on September 4, 2019 for Final Year students.

4. Dr. Sunita Jahirabadkar and Dr. Neeta Maitre arranged a lecture on 'Individual behaviour in Organization' by Ms. Kranti Athalye on September 9, 2019 for Final Year students.

5. Prof. A. N. Muchrikar arranged a talk on 'Technology Trends and Corporate Life' by Mr. Ashwin Chaudhary,Information Technology Executive Director / Vice President,Goldman Sachs, USA on September 30, 2019 for Final Year students.

6. Dr. S. M. Kelkar, Prof. S. P Mengale and Prof. Mahendra Deore arranged a lecture on 'Introduction to Software Defined Networking' by Mr Neeraj Pandey, VP, Network engineering and Delivery, Vodafone India on October 9, 2019 for TY students.

7. Prof. S. P Mengale arranged a talk on 'Penetration Testing' by Mr Swanand Gadre, Advisory Software Engg, IBM and Mr Sanjay Phanshikar, Software Engineer, IBM on October 10, 2019 for Final Year students who have opted for the elective.

8. Dr. Chhaya S. Gosavi and Prof. Neha Koria arranged a lecture on 'Programming Languages : Industry Perspective' by Mr. Ashish Belagali, CEO and Master Alchemist, Startup Founder, Xemble Software on October 15, 2019 for SY students.

9. Dr. Sunita Jahirabadkar, Dr. Neeta Maitre arranged a lecture on 'International Organisational Behaviour' by Mr. Abhay Jahirabadkar on October 16, 2019 for Final Year students.

10. Prof. A. N. Muchrikar, Prof Nutan Deshmukh, Dr. Neeta Maitre and Prof. Sayali Sapkal arranged a talk on 'Data Science and Data Analytics' by Ms. Prachi Shukla on 14 November 14, 2019 for 67 Final Year students from all branches.

11. Dr. S. V. Tikhe,Prof. H. S. Khairnar,Prof. A. U. Hazare and Dr. Anjali Naik arranged a lecture on 'Design and Analysis of Algorithms' by Ms. Rupali Sagade from TCS on November 19, 2019 for TY students.

## A Few Tips

1. Master at least one programming language.

2. Prime focus should be on your basic concepts of core subjects.

3. Fluency in communication skills is a must.

4. Learn from multiple sources (Edx, Coursera, Research papers etc.)

5. Always have a Plan of action before you start coding.

6. Work on side projects.

# Top Technology Trends for 2020

Technology is now evolving at such a rapid pace that annual predictions of trends can seem out-of-date before they even go live as a published blog post or article. As technology evolves, it enables even faster change and progress; causing an acceleration of the rate of change, until eventually it will become exponential. Technology-based careers don't change at the same speed, but they do evolve, and the savvy IT professional recognizes that his or her role will not stay the same. What does this mean for you? It means staying current with technology trends. And it means keeping your eyes on the future, to know which skills you'll need to know and what types of jobs you want to be qualified to do. Here are a few technology trends you should watch for in 2020.

## 1. Artificial Intelligence (AI)

Artificial Intelligence, or AI, has already received a lot of buzz in recent years, but it continues to be a trend to watch because its effects on how people live, work and play are only in the early stages. In addition, other branches of AI have developed, including Machine Learning. AI refers to computers systems built to mimic human intelligence and perform tasks such as recognition of images, speech or patterns and decision making. AI can do these tasks faster and more accurately than humans. In addition to consumer use, AI is used to schedule trains, assess business risk, predict maintenance, and improve energy efficiency, among many other money-saving tasks.

## 2. Machine Learning(ML)

Machine Learning is a subset of AI. With Machine Learning, computers are programmed to learn to do something they are not programmed to do: they learn by discovering patterns and insights from data.

In general, people have two types of learning, supervised and unsupervised. While Machine Learning is a subset of AI, there are also subsets within the domain of Machine Learning, including neural networks, natural language processing (NLP), and deep learning. Each of these subsets offers an opportunity for specializing in a career field that will only grow. On the consumer end, Machine Learning powers web search results, real-time ads and network intrusion detection, to name only a few of the many tasks it can do.

## 3. Robotic Process Automation or RPA

Like AI and Machine Learning, Robotic Process Automation, or RPA, is another technology that is automating jobs. RPA is the use of software to automate business processes such as interpreting applications, processing transactions, dealing with data, and even replying to emails. RPA automates repetitive tasks that people used to do. These are not just the menial tasks of a low-paid worker: up to 45 percent of the activities humans do can be automated, including the work of financial managers, doctors and CEOs. Although Forrester Research estimates RPA automation will threaten the livelihood of 230 million or more knowledge workers, or approximately 9 percent of the global workforce, RPA is also creating new jobs while altering existing jobs. McKinsey finds that less than 5 percent of occupations can be totally automated, but about 60 percent can be partially automated.

## 4. Edge Computing

Formerly a technology trend to watch, cloud computing has become mainstream, with major players AWS (Amazon Web Services), Microsoft Azure and Google Cloud dominating the market.

The adoption of cloud computing is still growing, as more and more businesses migrate to a cloud solution. But it's no longer the emerging technology.

As the quantity of data the world is dealing with continues to increase, people have realized the shortcomings of cloud computing in some situations. Edge computing is designed to help solve some of those problems as a way to bypass the latency caused by cloud computing and getting data to a data-center for processing. It can exist "on the edge," if you will, closer to where computing needs to happen.

For this reason, edge computing can be used to process time-sensitive data in remote locations with limited or no connectivity to a centralized location. In those situations, edge computing can act like mini data-centers. Edge computing will increase as use of the Internet of Things (IoT) devices.

By 2022, the global edge computing market is expected to reach $6.72 billion. As with any growing market, this will create various jobs, primarily for software engineers.

## 5. Blockchain

Although most people think of blockchain technology in relation to cryptocurrencies such as Bitcoin, blockchain offers security that is useful in many other ways. In the simplest of terms, blockchain can be described as data you can only add to, not take away from or change. Hence the term "chain" because you're making a chain of data. Not being able to change the previous blocks is what makes it so secure. In addition, blockchains are consensus-driven, so no one entity can take control of the data. With blockchain, you don't need a trusted third-party to oversee or validate transactions.

# Interesting Facts from the Tech World

1. Google was initially called BackRub.
2. An iPhone is made up of about 75 elements.
3. Mobile phone throwing is an official sport in Finland
4. The first GPS mobile phone was released in 1999
5. The oldest .com domain on the internet is symbolics.com
6. Only 8% of the world's currency is physical money, rest is digital.
7. The Android OS was designed for digital cameras
8. Googling your own name is called "Egosurfing"
9. The name of the first microprocessor was "4004"
10. "The Dirty Dozen" is the name of the twelve engineers who built the IBM PC
11. The original Xbox had sound snippets of real space missions.
12. Computer Security Day is celebrated on November 30th.
13. When Snapchat first launched in 2011, it was named Picaboo.
14. Comic Sans is the most hated font in the world.
15. NASA's internet speed is 91 GB per second.
16. The Apple Lisa was the first commercial computer with a GUI and a mouse.
17. MySpace lost all of its content before 2016.
18. The QWERTY keyboard was originally designed to slow you down.
19. There wasn't an app store in the first iPhone.
20. Russia built a computer in 1936 that ran on water.

# Experience of "Inspiration Award Winner" team of Smart India Hackathon 2019

## Team members: Sakshi Pophale, Rasi Wani, Chaitrali Gavhane, Shivani Kadam, and Anagha Dhekne

**Q. How did you come to know about SIH?**

**A:** I came to know about Smart India Hackathon after a session conducted by our Education Minister Mr. Vikas Javedkar in around 2017 while I was still pursuing my diploma.

**Q. How did the preparations start?**

**A:** SIH is a competition wherein one must think out of the box to solve a problem statement. The solution must be unique and optimised. The ppts should always talk about the product benefits rather than listing the features.

**Q. How did your team feel when you got selected for the final round?**

**A:** It was a very overwhelming moment for our team.

**Q. Did you face any trouble while team formation?**

**A:** All of us were eager to be a part of SIH so we didn't face any issue during team formation.

**Q. How did you manage your studies along with preparation for the hackathon?**

**A:** We never needed to bunk any classes. We would sit for hours on weekends to prepare and never wasted any free time.

**Q. How was the final hackathon?**

**A:** Well, 'FINAL' word itself indicates the pressure it brings along. This round was very challenging. The competition was huge and everyone was under a lot of pressure.

The problem statement organizers would continuously visit us and would come up with changes that they wanted in our product. Hence, we were developing our product using Agile methodology.

**Q. Tell us about your experience of the 36-hrs Hackathon.**

**A:** Smart India Hackathon was a great experience for us. Our nodal centre was Welingkar Institute in Mumbai.
The product development started at 10 AM. In our first review round, at 12 pm, was checked whether we started from scratch or were we ready with a prototype. We were even given hints to make our product more innovative. There are 10-12 review rounds during the hackathon. At night activities like Zumba & Yoga were conducted to relieve everyone from stress. The final review was the next day where Businessmen from HUL came to see our presentation & product. Our idea of using a chatbot for prediction was appreciated and played a crucial role in making our team a runner-up.

**Q. Were you expecting to win an Inspiration Award?**

**A:** Yes, we were expecting to win something because using AI in our product was very innovative and had not been done by any other team. We were pretty confident about our product.

**Q. Has the hackathon helped your skills?**

**A:** Yes. It definitely helped in improving our skills and knowledge. It boosts one's confidence.

**Q. What message or advice would you like to give to the teams participating from our college this year?**

**A:** Best of luck to all of them. Participation is all that counts. I suggest them to give their best and be innovative. All that needs to be done must be done and as they say "Hard work is the key to success".

**Faculty Co-ordinators**
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Prof. S. Mandke

**Student Co-ordinators**

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