# CSE DEPARTMENT MAGAZINE ISSUE : APRIL 2019

# "Everything is designed. Few things are designed well." — Prian Reed

# CONTENTS

Workshops Conducted
Events Participated
RedHat
Big Data
Achievements
Creative Writings





# <u>HO</u>D Message

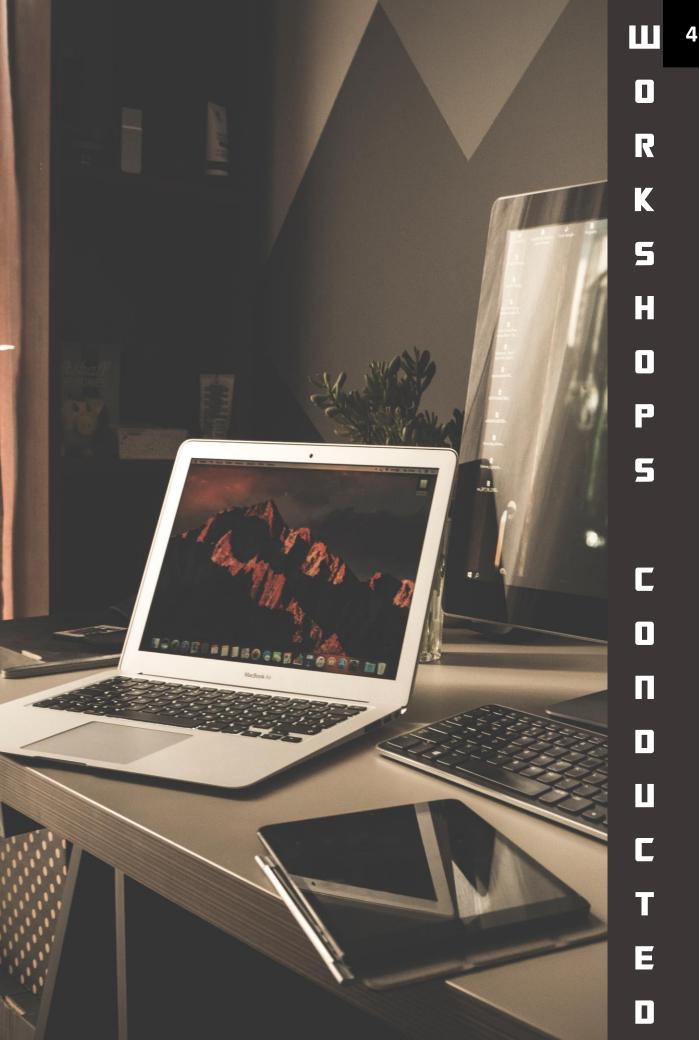


#### HOD: DR. SMITAA KASAR

Dear Students, It gives me immense pleasure in unveiling the CSE Digital Magazine "Whats Up" issue 2, 2019. Our college is one of the leading institutions in the Marathwada region, unique like a prism reflecting the manifold shades of learning and cocurricular activities.

Department is striving hard towards the goal of providing innovative and quality education with high standard to achieve academic excellence. The process of learning is extremely important in life. What you learn, how you learn and where you learn play a crucial role in developing ones intellectual capability, besides career.

Hence on behalf of our Computer Science and Engineering Department, I welcome all of you and congratulate the E-Magazine team and the faculty coordinator for their brilliant and original efforts for bringing out the E-Magazine, wishing all the Students and faculty will enjoy reading the magazine.



# Virtual Labs Bootcamp 3.0 National Level Workshop on Virtual Labs Development and Certification Program

National Level Virtual Lab Bootcamp, organized in association with IIT Bombay along with ETC and CSE Department and MIT(E).

Total 21 Teams participated out of which 10 teams were from MIT. Resource person from IIT and various Regional Centers of virtual labs.

The successful participants will receive silver certificate from IIT Bombay. The STTP was organized from 6 to 11 February 2019





# Workshop on Advanced Web Development Workshop

Computer Science and Engineering Department organized three days workshop on Advanced Web Development. 43 Students from CSED attended the workshop. The resource person were Mr. Tushar Kute and Mr. Aniket Thorat from Mitu Skillologies, Pune. Workshop was organized from 14 to 16 February 2019





# Ε V Ε Ι I 5 P Λ R Т C P Α Т Ε

# SMART INDIA HACKATHON-2019 CSE TEAM REACHED THE FINALS



#### **Student Participants:**

- Mr. Omkar Bahiwal
- Mr. Akshay Shinde
- Mr. Sudhir Singh
- Mr. Tejas Devda
- Mr. Roman Kazi
- Mr. Anup Kulkarni

#### **Faculty Mentors:**

- Ms. Seema Choudhari
- Ms. D.R. Deshmukh
- Mr. P.E. Khosre

Computer Science and Engineering Department team consisting of 6 students reached to the finals of **Smart India Hackathon-2019** 

The final Hackathon was 36 hours coding contest Teams from all over India participated in the contest. The finals for were organized at PSIT Kanpur.



R E D H A T

# RED HAT ACADEMY @ CSED 10 CERTIFIED STUDENTS

Students certified for various levels of Red Hat under the Red Hat Academy of MIT, at CSED.

Sr.			Date of	RHCE Exam
No.	Name of the Student	Class	Examination	Score
1	Suraj Singh Pawar	B.TECH ETC	11/03/19	271
2	Suhas Anvane	B.TECH ETC	11/03/19	261
3	Vedant Karmalkar	SYCSE	11/03/19	261
4	Surekha Pisale	B.TECH ETC	11/03/19	233
5	Swati Mulje	TYCSE	11/03/19	213
6	Ritu Adagale	B.TECH ETC	11/03/19	213
7	Tejas Rajesh Devda	SYCSE	12/03/19	283
8	Aniket Rameshwar Giri	SYCSE	12/03/19	300
9	Shreya Kotalwar	SYCSE	12/03/19	300
10	Aarti Zawar	SYCSE	12/03/19	283
11	Pranita Dombale	SYCSE	12/03/19	300
12	Harshada Patil	SYCSE	12/03/19	300

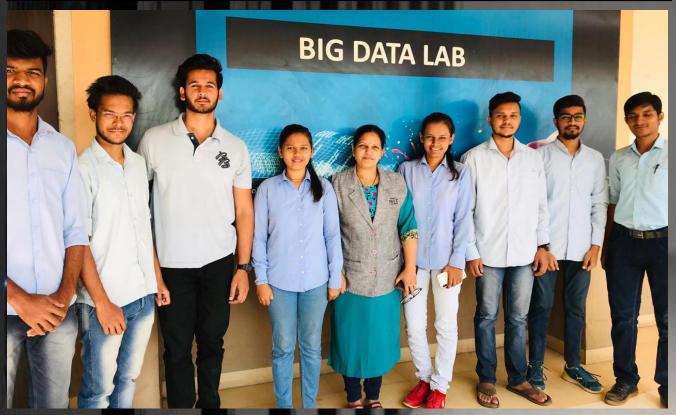




# BIG DATA ACADEMYO CSED

## New Batch of Big Data Course started from February 2019

Sr. No	Name of the student	Class	Branch
1	Sachin Rathod	SY	CSE
2	Shubham Jadhav	SY	CSE
3	Shrikant Salve	SY	CSE
4	Gauri Rajput	ΤY	CSE
5	Anjali Jamdade	ΤY	CSE
6	Sudhanshu Ghimmne	ΤY	CSE
7	Sudhir Singh	ΤY	CSE
8	Sanskar Mane	ΤY	CSE





# **Student Achievements**

# **NPTEL** Certification

- 10+ Students of CSED are certified for Course- Introduction to Programming in C. They successfully completed the course of NPTEL
- 2 Students of CSED are certified for NPTEL course Joy of Programming in C

# Top 5% in NPTEL Course

• Mr. Tejas Devda Student from CSED was among top 5% in India for the NPTEL course of Introduction to Programming in C

## Students Certified : Infosys Campus Connect Program

 60+ students of CSED successfully completed the Infosys Campus Connect Program and were certified for Infosys FP 5.0

## **IIT Bombay Internship**

• Mr. Naman Chakravarti got internship from IIT Bombay vlabs.

## **BARC** Internships

 Ms. Renuka Kulkarni, Ms. Anshul Goyal, Ms. Mitali Dhat of Final year got selected for interhsip at Bhabha Atomic Research Center, Bombay.

# Virtual labs hosted on National Portal of Vlabs

Following CSE Students were the part of development teams for development of the labs:



Mr. Sankalp Pol Team member Engineering Physics Lab

HOME

LABS

GITLAB

🕮 IIT Bombay

# Engineering Physics



This lab is contributed by Maharashtra Institute of Technology



#### Ms Anushka Kulkarni Team member Polymer Processing Lab

😩 IIT Bombay

Explore

HOME LABS GITLAB

# Polymer Processing Technology



This lab is contributed by Maharashtra Institute of Technology, Aurangabad



#### Mr. Akshay Shinde

#### Mr. Rohit Thombre

#### Mr. Sudhir Singh

Team member Software Engineering lab

🕮 IIT Bombay

POWAI, MUMBAI 76.

HOME LABS GITLAB

Software Engineering

Select the appropriate Software Process Model for the given scenario





#### Vlabs under process:

- Mr. Yugantar Pohare Team member of Power Electronics Lab.
- Mr. Surya Dev Singh Jamwal Team member of Digital Signal Processing lab.
- Mr. Mayuresh Khemnar Team member of Manufacturing process lab.
- Mr. Ishwar Jaitmal Team member of Plastic and Polymer lab.





## Following Students were Technical Volunteer for National Level Bootcamp for Virtual Lab Development

- Naman Chakrawarti
- Rushikesh Shete
- Tejas Devda
- Roman Kazi
- Ninad Dere
- Vyankatesh Tiwari





Students of Second Year –**Mr. Deven Sharma** and **Mr. Vivek Mahajan** won Finals of Cricket Tournament SUMMIT 2017 in Pune, organized by MIT WPU



Mr. Deven Sharma was Semifinalist in Summit 18 organized By MIT WPU Pune

Mr.DevenSharmawasSemifinalistinSpree19organizedbyBitsGoa





Mr. Deven Sharma was Winner of Zenith 19 organized by SGGS Nanded



**Mr. Omkar Bahiwal**, a Student of TYCSE completed an Internship and Training at CtrlS Datacenters Ltd, HQ Hyderabad. CtrlS is a Tier-4 Datacenter company dealing with large group of networked computer servers typically used by various organizations for the remote storage, processing, or distribution of large amounts of data. They have clients ranging from governments to banks such as SBI, AON-Hewitt, SpiceJet etc.

Omkar qualified for this Training from IndiaSkills – 2018 and several screening processes. The Training involved an exhaustive training in Cloud Computing, Solution Architecting and DevOps using multi cloud platform (prominently AWS), focusing on solving complex industry scenarios and use cases. Trainers were industry professionals from CtrIS and Amazon Web Services. The training was sponsored by The National Association of Software and Services Companies (NASSCOM). The training conformed to international standards of cloud computing along with enhancement of documentation, verbal and interpersonal abilities that made him competent to hold exceptional skills in cloud computing at a global level.



Omkar and Girisha with Mr. Amey Mashelkar, CEO Reliance Jio Gennext and Dr. RB Mashelkar, a Pioneer in Indian Research.

**Mr. Omkar Bahiwal** and **Miss Grisha Shinde**, Students of TYCSE won the "Most Commendable Project" Award, stood among the top 5 out of 2000+ projects at the Annual Natrajan Education Scociety's Innovation Awards. The award was presented by Dr. R.B. Mashelkar, a pioneer in Indian Research. The ceremony was held at Dr. Sumant Moolgaonkar – TCS, MCCIA Tower, Senapati Bapat Road, Pune.

NES seeks to use innovative pedagogy and technology to bring the best global standards of skill development to the world's underprivileged citizens. NES offers world class skills development and technology enabled education solutions to ensure that society as well as individuals are equipped with necessary skills to make a mark in the changing world. There were more than 2000 participants were from the states of Maharashtra, Madhya Pradesh and Gujarat. The winners were given an opportunity for commercialized ideas to serve the needs of the nation while building a successful and scalable commercial proposition. The shortlisting process spanned for four months, having four rounds in each month. A workshop on converting Ideas into Start-Ups was conducted for the top 50 teams. The final round was held at Pune on 23<sup>rd</sup> Feb 2019, which involved pitching of the idea to CEOs of large MNCs. Omkar and Girisha had presented the project – "Intelligent Road Traffic Control", The idea, basically is to develop an application that will analyse and estimate the demands of road traffic users and calculate the timings of the traffic lights grid. It also involved analysis of driving behaviour and mobility of the users.

Mr. Amey Mashelkar, CEO of Reliance Jio Gennext appreciated Omkar for his efforts and outstanding Innovation in his speech and offered opportunities for incubation to the project and work at his organisation.



Mr. Shree Ganesh of SY CSE was Runner Up at Intercollegiate State level sports meet SGGS NANDED (Basketball) which were held on 22<sup>nd</sup> February.

# CSE Students selections for IPT in Reputed Companies

Sr. No.	Name of the organization	No. of Students Selected	Stipend
1	Stub Hub India Pvt.Limited	4	10000
2	Intellect design Arena limited	1	15000
3	iken solutions Pvt. Ltd.	1	13000
4	BARC, Mumbai	4	0
5	Soft The NEXT limited	5	0
6	EC. Mobility Pvt. Ltd	3	0
7	BrandyBush Pvt. Ltd. Bhubaneswar	1	0
8	Knowzies solutions limited	2	0
9	KRESCENDO Software solutions.	3	0
10	Cognition Technology Pvt. Ltd.	1	0
11	Bharti Airtel Ltd (Bharti)	1	0
12	Lwitm Private Ltd.	2	0
13	Godrej & Boyce Mfg. Co. Ltd	2	0
14	Tech - Ciz Software Solution PVT. LTD.	3	0

# Placements Record 2018-19

Sr. No.	Name of Organization	Name of the Student	CTC in Lacs per Annum
1		Abhijjet Tedle	3.36
2		Pranav Joshi	3.36
3	TCC National Qualifier test	Mitali Dhat	3.36
4	TCS National Qualifier test	Shivangi Singh	3.36
5		Anshul Goyal	3.36
6		Akshita Sinha	3.36
7	Wipro Limited	Anand More	3.5
8	Hyde Park Solutions	Vipul Gurubhaiye	2.5
9	Hyde Park Solutions	Shubham Jadhav	2.5
10	Wipro Limited	Ritesh Bawle	3.5
11	Syntel Limited	Yash Bhatia	Offer letter not received yet
12	Syntel Limited	Shivani Medewar	Offer letter not received yet
13	Kothari Tech Mumbai	Altaf Chaudhary	3.24
14	Hybrid Bl	Vaibhav Kolhe	Offer letter not received yet

# **Faculty Achievements**

# Granted Copyright

• Dr. Smita Kasar is Granted Copyright for "Biomedical Waste Management Audit Tool" ( Reg No.SW-12097/2019)

# **Other Recognitions**

- Ms. Preeti Mishra Recognized by IIT Bombay for role of Mentor for NPTEL Course- Python Programming
- Ms. Preeti Mishra Recognized by IIT Bombay as Best Performing Mentor for NPTEL Course- Introduction to C Programming
- **Ms. Sushma Deshmukh-** selected as Mentor for Virtual Lab Development, by Vlabs IIT Bombay. she will mentor the lab development teams all over India.

## Paper Presented

- Dr. Smita Kasar Attended and presented paper titled Smart Physical Intrusion Detection System for highly sensitive area in International conference SmartCom-2019, Bangkok, Thailand, 24 & 25 Jan 2019
- Ms. D.R. Deshmukh presented paper titled "An Efficient And Fine-Grained Data Access Control Scheme with Privacy-Preserving Policy." JETIR - Volume 6, Issue 1, January 2019.

- Ashutosh D. Zade , Kavita V. Bhosle presented paper titled "CONVOLUTIONAL NEURAL NETWORK: DEVNAGARI DIGIT RECOGNITION" in International Journal of information and computing science, Volume 5, Issue 10, October 2018.
- Ms. Daivashala Deshmukh, Pranav Joshi, Shubham Jadhav, Dnyaneshwari Pawar presented paper titled "Big Data Technologies Using Hadoop Technologies: A Study based on CDH for Big Data" in International Journal of Inovative Research in Computer & Communication Engineering, Volume 6, Issue 8, 2018 August.
- Mr.Patil N.N, Mr. Mapari R.B. presented paper titled "Meta Data Based Data Integrity Tracking Scheme" in Cloud Environment International Journal 2018-19 Jan-19 International Journal for Research in Applied Science & Engineering Technology (IJRASET) Volume 7 Issue I, Jan 2019.
- Mr.Tarika Jawale, Mr. Mapari R.B. presented paper titled "Secure and Dynamic Multi-Keyword Ranked Search Scheme Over Encrypted Cloud Data Using K-Means Clustering" in International Journal 2018-19 Volume 6 Issue 2, March 2019.
- Ms. D.R.Deshmukh, Arti Dike presented paper titled "Vibe:- A Universal Background subtraction Algorithm for data extraction" in International Journal 2017-18 Volume 04, Issue 07, July 2017.
- Mr. R.B.Mapari, Dr. A.N. Holambe presented paper titled "Brain Tumor Classification Using Pattern Recognition Techniques: the Comprehensive Review" in International Journal 2017-18, Volume 4, Issue 2, Feb 2018.

- Mr. R.B.Mapari, Dr. A.N. Holambe presented paper titled "Brain Tumor Classification Using Pattern Recognition Techniques: the Comprehensive Review" in International Journal 2017-18, Volume 4, Issue 2, Feb 2018.
- Mr.Prashant Adhao, Mr. R.B.Mapari presented paper titled "Internet of Evertything(IoE): The new way to connect" in International Journal 2017-18, Volume 6, Issue 4, Apr 2018.
- **Ms. S.A Deshmukh** presented paper titled "An Improvised on Mining Frequent Item Sets on Large Uncertain Databases" in International Journal for Scientific Research & Development, Volume 5, Issue 04,June 2017.
- Ms. S.K Kulkarni, Mrs. S. S. Patil presented paper titled "A Review Paper on : Foreground Text Extraction Mechanism Using Document Image Binarization" in International Journal of Advance Engineering and Research Development Volume 4, Issue 6, 01 June 2017-18.





#### -Sharman Maidkar (SYCSE)

Truth and Falsehood are the concepts at which human is very naive about. People tell lies when they want to protect themselves. We need to realize that honesty holds the key to all the answers human is seeking for. It is very easy to know the difference between facts and fiction, but it is very hard to understand where to use them.

I am not a sophisticated human who knows what is truth, falsehood and where to use them. I have a place where I go to seek the answers, I call it the "Other Side". Everyone has that other side where they go and think about the things that they hesitate to talk about in the real world. Sometimes I think that I am on a quest to find out the truth about myself or life or what is our purpose in this world or why we even exist(I know one thing, I am not here to work 9 to 5).

All the facts are different but all the fiction is exactly the same. While discovering the other side you talk so much about truth that you get to know you are learning from it. Lying will not get you anywhere, but you will get surrounded by it. Truth can cut you free from the cage of falsehood you were stuck in forever. If you want to trade the typical life for something crazy and fun, try the potion of truth.

The other side, if you are not able to discover it on your own then don't worry just think about the first time you ever lied and the first time you spoke the truth, what made you feel free?

A Coding Community

-Omkar Bahiwal (TY CSE)

There's a need for a coding community in our college. Communities are important. They are the foundation that hold the shared beliefs, a common passion, and a sense of belonging. This helps everyone work together towards their personal or communal goals. Getting involved with a community is a great way to get connected to people who have similar interests as you do! By joining a community, you can stay up-to-date on trends and network.

I would like to share my experience at events and competitions across India, interacted with the best students across the nation. All of them were associated with some technical community in their college or city. My first experience with a technical community was at College of Engineering, Pune. I was there for a programming contest in 2017 when I was in 3<sup>rd</sup> Semester. I interacted with the coding community, they had their own dedicated space, study groups, many like minded people were present. They have several clubs. The clubs helped each one of them to pursue their interests. It was amazing, you could learn a lot more in a short period of time that you can learn with self study. I have been a part of the communities in Pune, Mumbai, Kanpur, Bangalore, Hyderabad and Delhi. Either online or being present there. It is very helpful. Whenever I face an issue in coding, I ask the community and in the matter of hours or minutes, the issue is solved. The people share and explore new knowledge staying upto date to the market. They also share various opportunities that come by, such as competitions, workshops, seminars, jobs, internships, etc.

Coding Communities are highly appreciated and supported by foundations and industries. There are several like Hacker-Earth, Microsoft, Mozilla, Apache, Intel and other open source ones that give recognition, based on the contributions the communities make.

Establishing a Coding Community will be a great fun in our college, because there are a lot of students, my peers that are interested in activities. I have initiated an attempt to form a community that is driven by students themselves under the HomeBrew Computer Club.

The following are the activities that I think should be planned –

- InstallFests It is an event where people interested in computers, free software and other geek topics meet and share knowledge and good delusions with small presentations. You'll also find people ready to help you install and use open source or other free software.
- Workshops we can organize several workshops to enhance knowledge and learn new technologies.
- Coffee and Code Regular meet-ups outside or in the college to develop projects jointly to make contributions to the global communities. Generally, these events are organized in cafes or parks.
- Monthly MeetUps Meeting about the strategies and further plans that should be carried out.
- Hack Nights Coding events that can be held on Fridays and Saturdays in order to complete projects.

- Women and Code I am an active thinker of women empowerment and equality. I think that girls in our college must participate and lead the technical communities. They must be equally involved with active participation. There will be several events that will help women participate in coding and excel.
- Coding Challenges Organizing several high energy coding contests to encourage participation and test the skills of individuals. There are several online contests that the community can participate and win to bring laurels to the college.
- Awards and Rewards There must be recognition for all the contributors in the community, that may be in the form of awards and rewards every month.
- Collaboration various companies that I mentioned are willing to collaborate with active communities, they give us problems to solve and give global recognition to our contributions. This can bring out several opportunities.
- Visits Teams can be formed that can participate and visit events and participate in competition all across the nation and also outside.

I hope that this article has made you realize about the importance and need of a coding community in our college. So, I plead each one of you reading this article to actively participate in establishing a community in our college. It will be GREAT!!!

-Omkar Bahiwal (TY CSE)

This article is an easy guide for a newbie to get into Al Development that should put you to the right track. I have been practicing AI for almost a year, and have completed three projects in AI, and some are in progress. Generally, I am asked these questions – What is AI ?, How do I start Learning?, Where do I start?, Where to find the resources?, What programming language should I use?, How much Math is involved?, Is it just code with a huge bunch of if-else statements? So, I have tried to answer these questions in this article.

Artificial Intelligence is a very broad term. It is a whole new domain of Computer Science itself, which further has its branches and topics. It involves Machine Learning Models, Artificial Neural Networks, various AI algorithms, optimizers, etc.

What is Artificial Intelligence? – The Capability of a machine to perform tasks that usually require Human Intelligence. Such as Recognizing Images, Understanding languages, translating, planning, problem solving, etc.

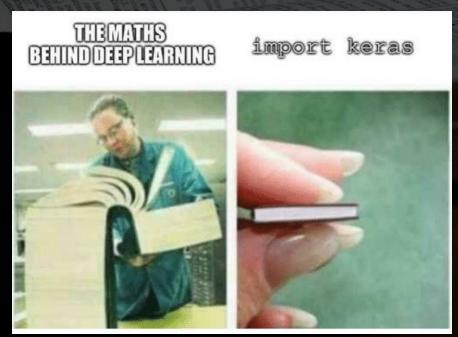
What is ML? – Machine learning is that subcategory of AI that uses statistical techniques to identify patterns of repetition in databases. Once properly trained, it can analyze loads and loads of data sets, predict accurate outputs and sort new inputs all by itself (e.g. voice search).

If you prefer an online course, google has provided an excellent one at <u>developers.google.com</u> that will introduce and give you a hands-on to Machine Learning using Google's TensorFlow APIs. If you want to see an example of ML and Natural Langua processing, you can see one of my projects, that is a Chatbot on <u>mit.asia</u> in the right bottom corner, give your email ID and try asking questions like – How is the Ambience at MIT? or Who made you?

Here's a step by step guide for beginning with AI Software Development –

#### 1) Background in Mathematics.

For starting with Machine Learning, you will need the knowledge of Linear algebra, you need basic knowledge of Calculus, and sound knowledge of probability, statistics and various algorithms associated with them. Learn as much as math as you can.



If you are not very great at math, don't worry, basic knowledge of Math (statistics) is sufficient for your needs and most often, the math behind all the tasks is abstracted by the libraries that are available, you just have to use the Built-In features in order to test and train your models.

#### 2) The Theory.

If you wish, you can learn computational Learning Theory. It is required for If you want to go deeper, basically in NLP. Refer to online courses for learning the theoretical part of regression, neural networks, and other stuff.

#### 3) Get familiar with the Machine Learning Algorithms.

If you want to solve problems in AI development, you should be comfortable with –

- CNN Convolutional Neural Networks.
- RNN Recurrent Neural Networks.
- Deep learning (ANNs).
- And many decision trees, optimizers and random forest algorithms.

After learning all these, you will easily able to practice and solve problems using AI, but you have to learn it, there is no excuse for that.

#### 4) Choose Your Programming Language and framework.

The choice of programming language is yours, but the logic that you develop and implement is more important. I would recommend the main stream language in the market i.e Python. It provides you lots of tools and several high-quality libraries, its easier to learn and to write your logic in. You can use Jupyter notebooks in PyCharm – Anaconda environment.

Language is your choice - it could be Python or C++, either Java, C or Octave. Each one has its own strengths and limitations when it comes to performance and libraries availability. Choosing a framework is the next step after learning the basic: As for the open-source framework to use for testing the newly acquired skills you have:

- Google-powered TensorFlow, by far one of the most popular ones is a Python-based framework.
- Theano, Scikit-learn, Keras, caffe all Python-based frameworks, as well
- Deeplearning4j, a Java framework
- Microsoft Cognitive toolkit.



5) Focus on what you want to build, narrow your scope.

Clearly articulate your goal, what exactly you want to do and write it down in single sentence – for instance, "To Develop an Algorithm that predicts Stock Market Prices". When you define this sentence, you will be able to –

- Classify and break down your tasks into smaller problems.
- Focus on solving the sub-problems.
- Identify the proper resources that are required.

37

#### 6) Learn by performing hands-on.

The best way to learn any technology is to perform it practically. Try to solve simpler problems first and then delve deeper into complex ones.

As a start, solve some easy problems, try training a simple machine learning algorithm and evaluate its performance. For example you can try –

- Building a simulator.
- Writing AI code for classic games like tic tac toe, Sudoku or snake.
- Develop code for pattern recognition.
- Train a simple ML model to recognize Images.

A better and challenging way to perform Hands-on is to enter into competitions at Kaggle.com Commit to solving the problems that other AI developers are working on by participating in a <u>kaggle.com</u> competition.

Test out multiple approaches and go with the most effective solution. Not only that you will get to test your skills in AI software development but your collaboration skills.

#### 7) Keep on learning.

Al is a vast subject, keep exploring it. If you require initial assistance, you can get in touch with your teachers or who ever is an expert in Al. Join the active technical community in the college or around you, it is a great way to learn with collaboration.

# MACHINE LEARNING

IKNOW

Here are some resources in order to learn from the web -

- Stanford ML Course -<u>https://www.coursera.org/learn/machine-learning</u>
- Google AI <u>https://ai.google/education/</u>
- MIT OCW <u>Youtube Playlist</u>

I hope that this article helps you gain confidence in getting started with AI development. Sure do check out my projects and follow me on <u>github.com/ombahiwal</u> Contact me – <u>omkar.bahiwal@mit.asia</u>



Life is a Game Rush for Gain... Sometimes Pain.. But at times it feels like all in sane. Yet happiness is the fuel to the Game. This brain decides the Lane. And then everyone catches their respective Train. And at the end.. Some people touches your heart, some stay connected, some become memories and some just wane..!!

> Shreya Kotalwar (SYESE)

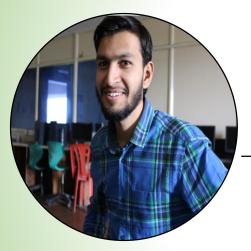
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Thank you all for reading our magazine. Hope you all enjoyed. Special thanks to Shambhavi Patil ma'am and V.Kala ma'am for letting us use the Research Lab(506) for creating the E-Magazine also we would like to thank all the students and faculties for providing the contents for the Magazine. If you are reading this, have a nice day!