

Academics

2017-2021 | *B.Tech* in **Electronics and Communication Engineering**, IIIT Nagpur
GPA/Rank | **8.41/10.0** (Currently Pursuing)

Technical Skills

Programming Languages	C Python HDL
Libraries / Frameworks	Jekyll Numpy Pandas Scipy Tensorflow Keras
Databases	SQL Lite
Systems / Platforms	Git Linux Bash
Markup / Templating	HTML CSS
Others	Latex MATLAB Raspberry Pi Arduino Microprocessor 8085

Technical Interests

Computational Social Choice, Image & Signal Processing, Computational Geometry, Data Mining, Machine Learning

Experience

July'19	Summer Research Intern	Indian Institute of Technology, Gandhinagar
May'19	Continued my research under the guidance of Prof. Neeldhara Misra . Worked in the fields of Computational Social Choice and Mechanism Design (Game Theory). Worked on countering and solving the hardness of the winner determination of multiwinner voting rules by studying them under special settings [pdf].	
Jan'19	Winter Research Intern	Indian Institute of Technology, Gandhinagar
Nov'18	Research Intern under Professor Neeldhara Misra . Extensive research in the fields of Fair Division, Voting and studied to hardness of various problems.	
May'19	Research Student	Indian Institute of Information Technology, Nagpur
Nov'18	I have worked under the guidance of Assistant Professor Ankit Bhurane and Vipin Kamble on various projects like Early detection of Parkinson's Disease & Congestive Heart Failure, Noise Estimation, Fake Currency Detection, etc.	

Projects

- **Detection of Counterfeit Indian Bank Notes** Under guidance of Dr. Vipin Kamle
Designing an Image Processing algorithm aiming to detect 12 security features to detect Counterfeit Indian bank notes
- **Detection of CAP Activity** Ongoing Research Project
Ongoing work on detection of Cyclic Alternating Pattern within EEG. Working along Ambarish Chandurkar under the guidance of Dr. Ankit Bhurane
- **Congestive Heart Failure** Under the guidance of Dr. Ankit Bhurane
[Cognitive Heart Failure](#) is the both the implementation of [Deep CNN for the automated diagnosis of congestive heart failure using ECG signals](#). Obtained an accuracy of 99.07% for the same dataset as used by the authors of the paper.
- **Local Positioning System** Digital Communication Course Project
Developed an entire system which enables user to upload an images on local WiFi(using RPi as server) of his current location and his destination (Image Processing and Deep Learning) using Dijkstra's algorithm for in-campus navigation.
- **Character Segmentation in a Document** Research Paper Implementation
Used Image & Signal Processing, CNN to identify the characters written on a document.
- **Speech Recognition using CNN** Signals and Systems Course Project
Developed a CNN model using signal processing on the dataset to convert Speech to Text
- **Other Projects**
Made games like [Snake Game](#), [Flappy Bird](#). Traffic Control System using 8085 and Digital Logics. Made Data Compressor using Shannon-Fano Algorithm in HDL. Rest of my projects can be accessed on my github account.

Research Work

- 2019 | **Estimation of Guassian Noise in digital images using Haar Wavelets** [Submitted in IEEE Transaction]
Varad Pimpalkhute, Rutvik Page, Ashwin Kothari, K M Bhurchandi, Vipin Kamble.
- 2019 | **A hybrid time-wavelet domain approach for early-stage diagnosis of Parkinson's disease.** [Ongoing]
Shivani Dhok, **Varad Pimpalkhute**, Ankit A. Bhurane, Manish Sharma, U. Rajendra Acharya.

Conferences & Summer Schools

- **38th IARCS Annual Conference on FSTTCS '18**

Attended the Foundations of Software Technology and Theoretical Computer Science (FSTTCS '18) Conference at Ahmedabad from 10 Dec '18 - 14 Dec '18.

- **ACM-W Summer School on Algorithmic Game Theory**

Attended the summer school as a teaching assistant at IIT Gandhinagar from 4 July '19 to 14 July '19.

- **CSA Summer School, IISC**

Attended the prestigious summer school at Computer Science and Automation Department in IISC, Bangalore. Attended the week long summer school from 15 July '19 to 20 July '19.

Training and Workshops

- Deep Learning course at deeplearning.ai by Andrew NG on Coursera.
- Specialization on Algorithms by Tim Roughgarden, Stanford University on Coursera.
- 3 Day workshop on Machine Learning and Artificial Intelligence at VNIT, Nagpur
- 2 Day Workshop on IOT and Arduino at IIIT, Nagpur

Activities & Leadership

- Bagged the best intern research diary award at the Summer Research Internship Program, IIT Gandhinagar.
- Honorable Mention for project **Paraclate** in Nasa Space Settlement Contest.
- **Teaching Assistant:** I am a teaching assistant for Signals & Systems course instructed by Dr. Ankit Bhurane. I am mainly concerned with taking doubt solving sessions. I was also a teaching assistant at the ACM-W Summer school on AGT at IIT Gandhinagar under Professor Neeldhara Misra.
- **T&P Office:** I am a student placement coordinator at my college. I mainly deal with assisting in creating a network and making a database of all the upcoming internships at companies, colleges, etc.
- Attended **FSSTCS '18** Conference at Ahmedabad.
- Attended workshops on IOT, Artificial Intelligence and Machine Learning.
- **Conveyer, dotSlash** IIIT Nagpur: Conveyer at the open source track in programming community 'dotSlash'.
- **Event Organiser in Tantrafiesta and Abhivyakti:** Co-Head of the Line Follower Event in **TantraFiesta '17**; Head of Samarth event in Abhivyakti '19. Samarth is the theme event of Abhivyakti which serves to spreading awareness about the special children of India.