



M ARUN KUMAR
Electrical Engineering
Indian Institute of Technology Bombay
Specialization: Communication Engineering

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M.Tech.
Male
DOB: 29-04-1994

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2020	7.60
Undergraduate Specialization : Electronics & Communication Engineering				
Graduation	JNTUH	Aurora's Technological and Research Institute	2015	74.08

MAJOR PROJECT

- **M.Tech Project: An efficient channel estimation scheme in TDD MIMO Systems** (May'19 - Present)
 Guide: Prof. Kumar Appaiah, Electrical Engineering, IIT Bombay
 - Implemented **Multi Cell MMSE based MIMO precoding** in multiple antennas systems which used non-orthogonal pilots for channel estimation.
 - Analysed and implemented **covariance based channel estimation** which uses Bayesian Estimation in single cell system and observed its performance based on rate vs number of antennas.
 - Working on implementation a basic precoder which utilises the information obtained from **Kalman** estimate in **coordinated MIMO** systems.

WORK EXPERIENCE & NON ACADEMIC PROJECT

- **Interview Management Software | Electrical Engineering Department, IITB** (Feb'18 - present)
 Guide: Prof. Bikash kumar Dey, Prof. Madhu N Belur, Electrical Engineering, IIT Bombay
 - **Lead role** in building online system that made **automatic coordination** across interview committees.
 - The online system allowed committees to decide in **real-time** using a **cross platform web application** about interviews.
 - Built various other **peripheral interfaces** to collect data at different times from students and other sources.
 - This system was used **successfully** in the last **3** admission sessions.
- **Systems Engineer | Infosys Technology Ltd** (Dec'15 - Jul'17)
 - **Roles and responsibilities:** part of the team which developed an application which automates billing for the customers of the client.
 - Wrote SQL queries to fetch data to the module and to develop features using Oracle Peoplesoft ERM tool.

KEY COURSE PROJECTS AND SEMINAR

- Scheduling in 4G LTE (Jan'18 - Apr'18)
- Simulation of Cellular System in Octave (Jan'18 - Apr'18)
- Inter cell interference in Multi Cell MIMO systems [M.Tech Seminar] (Jul'18 - Nov'18)
- Image Dehazing using color attenuation prior and dark channel prior (Jul'18 - Nov'18)
- Basic Image Editor tool in Python (Jul'18 - Nov'18)
- Wavelet based leaders and P-leaders in Multi Fractal Analysis (Jul'18 - Nov'18)
- Spam URL classification using Machine Learning (Jan'19 - Apr'19)

TECHNICAL SKILLS

Languages : C, C++, Python, HTML, PHP, JQuery, Bash scripting.
Tools : MATLAB, L^AT_EX, Git.

POSITIONS OF RESPONSIBILITY

- **System Administrator: PC Lab, Electrical Department, IIT Bombay** (Jul'17 - Present)
 - Building and maintaining the website of EE department, maintaining TA feedback and allotment portals.
 - Providing mail service, storage space, computing facilities and network facilities to the department.
- **Web Nominee: Post Graduate Academic Council, IIT Bombay** (Jul'18 - Jun'19)
 - Designed new web portal for PGAC which is used by all the Post Graduate students of the institute.
- **Mess Secretary: Hostel-1, IIT Bombay** (Sep'17 - Mar'18)
 - Managed all mess related activities for a mess which catered for 250+ students.

CO-CURRICULAR ACTIVITIES

- Completed **Machine Learning** course by **Andrew Ng** from Coursera. (2019)
- Conducted an introductory session on **Linux, Vim and Git** as a part of Bridge Course which helps in smooth transition of new joiners to institute. (2019)
- Volunteered for an introductory session on **Python** which was conducted as a part of Bridge Course. (2019)
- Completed a **100 hrs** course on the **Chinese** language conducted by IR office, IIT Bombay. (2019)
- An active member of **National Service Scheme (NSS)** for 2 years and attended a camp conducted in a village to perform social activities like conducting medical camps, cleaning and painting common facilities like village panchayat, temple etc. (2013)
- Completed basic course in the **French** language from Vivekananda Institute of Languages, Hyderabad. (2012)
- Volunteered for 1st **World Parliament on Spirituality** for a week as part of NSS activity. (2012)
- Completed Diploma in spoken English from Vivekananda Institute of Languages, Hyderabad. (2012)