Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2020	0.00
Undergraduate Specialization : Electronics & Communication Engineering				
Graduation	Visvesvaraya National Institute of Technology, Nagpur	Visvesvaraya National Institute of Technology, Nagpur	2016	9.02
Intermediate/+2	BIE-AP	Narayana Junior College, KPHB	2012	92.00
Matriculation	CBSE	Bharatiya Vidya Bhavans Public School, BHEL Township	2010	9.00

SCHOLASTIC ACHIEVEMENTS

- **99.68** percentile in **GATE** in Electronics and Communication among **1,52,318** candidates   (*2016*)
- Secured an all India rank of **7578** in **AIEEE**   (*2012*)
- 3rd runner up in **national level** abacus competition by SIP-INDIA   (*2008*)

MAJOR PROJECTS AND SEMINAR

- **M.Tech Project: OpenFlow Router with eBPF Forwarding Engine**   (*May'19 - Present*)
  Guide: Prof. D. Manjunath, IIT Bombay
  Objective: Create a fast data plane forwarding device for small to medium networks.
  Completed work: Put together the functional requirements of controller and switch.
  Ongoing & future work:
  - Using POX controller to communicate with OpenVSwitch via **OpenFlow** protocol.
  - Using **eBPF** in kernel space as backend for fast packet forwarding, and less number of packet copies.
  - Implementing a level-compressed **TRIE** for fast lookup.
  - Porting the entire system to a **SPARC processor** on FPGA, as a prototype for ioT deployment
  - Benchmark testing of the system

- **Seminar: Open Source Router**   (*Jul'18 - Dec'18*)
  Guide: Prof. D. Manjunath, IIT Bombay
  - Studied Click Modular Router, Extended Berkely Packet Filter, Network Processor Architecture and Software Defined Networking (SDN)
  - Implemented a basic version of Click modular router, to work as an Ethernet switch.

WORK EXPERIENCE

- **Software Developer** | *Nykaa*   (*Jun'16 - Jul'17*)
  - **Responsibilities:** Involved in development of product listing, search, and checkout domains of the website.
  - Closely worked with Marketing team to strategically place tracking tags at numerous locations of the website.
  - **Softwares used:** HTML, Javascript, jQuery, Magento Framework, PHP

- **Teaching Assistant: Communication Networks** | *IIT Bombay, IIT Dharwad*   (*Jan'19 - Apr'19*)
  Instructor: Prof. D. Manjunath, IIT Bombay
  - Created and evaluated **7** lab experiments, based on **socket programming**.
  - Work also involved **traveling**, setting up lab experiments and evaluations at **IIT Dharward**.

- **System Administrator** | *Electrical Department, IIT Bombay*   (*Jul'17 - Present*)
  - Development of EE department website, Dashboard, and maintaining numerous portals like faculty search committee, meeting room booking system, faculty wiki pages and TA allotment portals.
  - Provide mail service, storage space, computing and network facilities to the Department.
  - **Automation** of admission process through web based services and **Bash Scripts**

KEY COURSE PROJECTS AND SEMINAR

- **Simulation of Cellular system in MATLAB**   (*Jan'18 - Apr'18*)
  Instructor: Prof. Abhay Karandikar, IIT Bombay
  - Computed **SIR, blocking probability** for different cluster sizes and **sectoring**. Analyzed **handover** process and **ping-pong** rate for different user mobilities and hysteresis values.
  - Analyzed BER performance for **space and time diversity** in a slow, flat fading Rayleigh channel.
  - Analyzed BER performance for a **single-cell** and **multi-cell** scenario in a **CDMA** cellular system.

- **Different Scheduling Schemes in LTE**   (*Jan'18 - Apr'18*)
  Instructor: Prof. Abhay Karandikar, IIT Bombay

- Simulated channel aware schemes: Maximum Throughput **(MT)**, Proportional Fair **(PF)**, Throughput to Average **(TTA)** scheduling schemes in **LTE** Downlink.
- Used Cell Throughput, Average user throughput, and Jain Fairness Index as metrics to compare the scheduling schemes.

- **Basic Image Editor** *(Jul'18 - Nov'18)*
  Instructor: Prof. Amit Sethi, IIT Bombay
  - Developed a Web based, cross platform GUI to perform operations on images
  - Showcased Histogram Equalization, Log Transform, Gamma Correction, Blurring, Sharpening, Median filtering techniques in the application.
  - Implement full inverse filtering, truncated inverse, approximate wiener, and constrained least square filtering to deblur the input image

- **Image Dehazing through Depth estimation** *(Jul'18 - Nov'18)*
  Instructor: Prof. Amit Sethi, IIT Bombay
  - Estimated Depth of a scene, using Color Attenuation Prior **(CAP)** and Dark Channel Prior **(DPC)**.
  - Using the estimated depth, reconstructed a haze-free image based on atmosphere degradation model

- **House sale status classification** *(Jan'18 - Apr'18)*
  Instructor: Prof. Amit Sethi, IIT Bombay
  - Based on the input attributes, classified house sale status
  - Used Random Forest, Support Vector Machine **(SVM)**, Perceptron, Gaussian Naive Bayes Algorithm, and K-Nearest Neighbour Algorithm classification models
  - Grid Search, and Cross validation were done, for a subset of hyper parameters for each model, to increase cross validation accuracy

- **Implementation of DBSCAN Algorithm from scratch** *(Jan'18 - Apr'18)*
  Instructor: Prof. Amit Sethi, IIT Bombay
  - Developed a program in python which will take a csv as input and give labels of each datapoint as output, depending on the hyperparameters that are set.
  - Utilised the implementation as a backend process for a web based GUI, which clusters data points and labels them, each cluster having a different color.

KEY COURSE PROJECTS AND SEMINAR

Languages	:	C, C++, Bash Scripting, HTML, Javascript, jQuery, PHP, Python
Tools	:	Matlab, GNU Radio, LaTeX, Git, Wireshark
Frameworks	:	Magento, CodeIgniter

RELEVANT COURSES

- Digital Message Transmission
- DSP and its Applications
- Introduction to Machine Learning
- Wireless and Mobile Communications
- Image Processing
- Applied Linear Algebra
- Information Theory and Coding
- Statistical Signal Analysis
- Communication Networks

POSITIONS OF RESPONSIBILITY

- **Web Secretary** | *Hostel 1, IIT Bombay* *(Jul'17 - Jun'18)*
  - Development and Maintenance of Hostel 1 Web site, and Computers.
- **PG Bridge Course Overall Coordinator** | *Electrical Department, IIT Bombay* *(Jul'18)*
  - Organised a week long program for the **academic upliftment** of PG freshers.
  - Executed the program effectively in **parallel to regular academics** for more than **100** students.
- **Student Companion** | *Institute Student Companion Program, IIT Bombay* *(Jul'18 - Jun'19)*
  - **Mentored** 7 M.Tech students by providing continuous help and support throughout the year
  - Played a key role in Department orientation, which included course registrations, informal sessions and lab visits for PG and PhD freshmen in *Communication Engineering* specialisation.
- **Web Nominee** | *Post Graduate Academic Council, IIT Bombay* *(Jul'18 - Jun'19)*
- **Web Coordinator** | *Students' Reading Group, Electrical Department, IIT Bombay* *(Jul'18 - Jun'19)*

OTHER ACTIVITES & INTERESTS

- **Volunteered** for **Python** workshop by PGAC, IIT Bombay *(Oct'18)*
- **Volunteered** for **Linux** workshop for Electrical Department PG Bridgecourse, IIT Bombay *(Jul'19)*
- **Hobbies**: Watching TV series, solving puzzles, chess, snooker