

HEMANTH BOLLAMREDDI

MAJOR IN ELECTRICAL ENGINEERING
MINOR IN COMPUTER SCIENCE

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SKILLS

PROGRAMMING

C / C++



JAVA



PYTHON



VERILOG



MIPS



HARDWARE

ARDUINO



RASPBERRY PI



SPARTAN FPGA



PIXHAWK



ESP 8266 / ESP 32



SOFTWARE & UTILITIES

ROS



MQTT (IoT)



ANDROID STUDIO



XILLINX ISE



COURSE WORK

ELECTRICAL ENGINEERING

- Microelectronics (I & II)
- Digital Electronics and Design #
- Intro to Communication Engineering
- Digital Signal Processing
- Power Systems

COMPUTER SCIENCE

- Data Structures and Algorithms
- Computer Organization (Verilog & FPGA)
- Operating Systems *
- Database Management
- Machine Learning *

Awarded A* for exceptional performance.

* Ongoing Course.

EDUCATIONAL QUALIFICATIONS

Year	Degree	Institute	CPI / %
2019 (Expected)	Bachelor in Electrical Engineering	Indian Institute of Technology, Kanpur	8.52 / 10
2015	Class XII: State Board	Sasi Jr College, Velivennu	97.50 %
2013	Class X: State Board	Sasi High School, Velivennu	9.70 / 10

ACADEMIC ACHIEVEMENTS

- Secured **All India Rank 656** in **JEE Advanced 2015** among 200,000 students.
- Secured **All India Rank 1167** in **JEE Main 2015** among 1,500,000 students.
- Secured **State Rank 230** in **AP-EAMCET 2015** among 200,000 students.

WORK EXPERIENCE

Intern, Qualcomm Inc, Bangalore

(May'18 – Jul'18)

- Worked in Vehicle Networks Team and developed **utilities for testing the performance of CAN bus** attached to **Qualcomm® Snapdragon™ 820**.
- Developed JAVA application to load the CAN bus attached to P-CAN Pro FD.
- Performed **Android Vendor Test Suite (VTS)** tests on Automotive HAL.
- Awarded 2nd position in Idea Quest Competition for the project "**Headphones with active noise cancellation**".

TECHNICAL PROJECTS

Intelligent Ground Vehicle Competition (IGVC)

(Oct'16 - Current)

Mentored by Prof. Gaurav Pandey, IITK and Prof. Mangal Kothari, IITK

- Competition aimed at designing an **autonomous ground vehicle** capable of navigating obstacle laden path in unknown terrain.
- **Team leader of a team of 10 and Head of the Electronics team.**
- Studied and implemented various **algorithms for robot localization**.
- Implemented seamless switching between autonomous and manual modes.
- Implemented **LiDAR braking system** for low latency obstacle avoidance.
- Secured **5th position in Design Competition** and **11th in the Self Drive** among 36 teams world-wide in IGVC'18 organized by Oakland University, Michigan.

EMG Gesture Recognition

(Feb'17 – Mar'17)

Electronics Club, Science and Technology Council, IITK

- Part of a team of 5 aimed at creating **easy interaction between human and a machine** (computer).
- Used various **digital / analog filters** for extracting the required EMG signals
- Implemented **MQTT protocol** on **Odroid XU4 platform** for controlling appliances wirelessly using hand gestures.

MINOR PROJECTS

SWARM ROBOTICS

- Aimed at building a system of small robots capable of **collectively doing tasks**.
- Implemented communication between bots using **ESP8266 Wi-Fi**.
- Implemented interrupts for Atmega microcontroller (AVR Programming)

VOICE CONTROLLED ROBOT

Created a prototype of a robot which follows speech commands.

MANAGEMENT

Coordinator, Electronics Club, IIT Kanpur

(Apr'17 – Apr'18)

- **Overall management** of the student body of electronics enthusiasts.
- Worked with a two-tier team for organizing lectures, workshops, competitions, camps and mentoring teams participating in national level competitions.
- **Effectively managed the budget** presented to the club for the year 2017-18.
- **Assisted a group of around 24 students** for four different projects during the summer camp'17.

Secretary, Electronics Club, IIT Kanpur

(Jul'16 – Apr'17)

- Conducted **lectures and workshops** to introduce freshmen to electronics.
- **Represented the club** in the various science and technology exhibitions.
- **Managed the inventory** and was responsible for issuing the components.
- Mentored a mini project titled **"Hacking IR Signals of TV Remotes"**
- Part of a project titled **Swarm Robotics** in summer camp'16.