Aditya Ramesh **UG-3 (B.Tech)**
Electronics & Communications Engg. **ramesh.aditya17@gmail.com**
Indian Institute of Information Technology, Sri City **+91-7715891652**
Links: Github Linkedin

Examination	Specialization	University / Board	Year	CPI
Graduation	Electronics & Communications (B.Tech)	IIIT Sri City	2021	8.6/10
AISSCE	-	CBSE	2017	85.6/100
AISSC	-	CBSE	2015	9.8/10

Areas of Interest

Signal Processing, Adaptive Filtering, Estimation Theory, Next-Gen Communications, Pattern Recognition

Work Experience/ Internships

- **Research Intern at SaSg Lab, IIT Indore** **[Dec '19 - Jan '20]**
  - Worked on application of adaptive filtering algorithms to radar systems.
  - Working on submitting a conference paper to IEEE.

Key Academic Projects

- **B.Tech Project - Electromyography based robotic arm for intergration into a exo-skeleton**
  (Guide : Dr. Anish Turlapthy, IIIT Sri City) **[Jan '20 - Present]**
  - **Abstract**: The human body is one of the most sophisticated systems in our near vicinity. The human body gives a large assortment of signals that can be studied to make important insights into the working of the human body. One of these signals are electromyograms given out by the muscles in the body. The signals can be harnessed and processed to control a multitude of mechanical devices. A robotic arm based on EMG signals is proposed which can be used as an effective tool for rehabilitation purposes. The robotic arm is also suitable for integration into a full body exo-skeleton that can be used for a variety of purposes including but not limited to rehabilitation.

- **End to End Vehicular IOT with improved communication framework using LMS based estimation techniques**
  (Guide : Dr. Raja Vara P, IIIT Sri City) **[Jan '20 - Present]**
  - **Abstract**: The next big step in the automotive field will be autonomous vehicles. A crucial part of this system will be end2end (vehicle to vehicle, vehicle to barrier) communication systems which will be required in order to ensure a complete picture of the surroundings. To relieve the communication burden caused due to transmission of large amounts of sensor data in the process a LMS based adaptive estimator is proposed which aims to preemptively predict the data and in the process decrease the no. of messages sent.

Course Projects

- **Classification of Everyday action using EMG data**
  (Guide : Dr. Anish Turlapaty, IIIT Sri City) **[Aug '19 - Nov '19]**
  - Developed a efficient ML model for classification of EMG data using EMG Physical action data-set
  - Devised a new hierarchical classification method using decision trees and multiple classifiers.

- **Online Auction Portal**
  (Guide : Dr. Subu Kandaswamy, IIIT Sri City) **[Aug '18 - Nov'18]**
  - Designed and Implemented a Online Auction Portal to bid and sell items online.
  - Implemented efficient data base management techniques using UML diagrams and keyword based search techniques.

- **Bird Sound Classification System**
  (Guide : Dr. Anish Turlapaty, IIIT Sri City) **[Aug '18 - Nov'18]**
  - Designed and Implemented a Bird Call Recognition App using the techniques taught in the signals and systems course.

- Developed a web-app to upload bird calls and get results online about the possible birds using a KNN based classifier on the server side.

Position of Responsibility

- **Teaching Assistant, Signal & Systems** **[Jan '20 - Apr'20]**
  - Conducted weekly tutorials for 1st year undergraduate students involving MATLAB simulations
  - Responsible for teaching,evaluating & helping students with concepts of Signals & Systems
- **Technical Coordinator, IOT Club, IIIT-Sri City** **[Jan '20 - Present]**
  - Conducted monthly sessions for 1st and 2nd year undergraduate student and taught the use of micro-controller boards for development projects.
- **Event Coordinator, Music in Abhisarga 2018, IIIT-Sri City** **[Jan '18 - Mar '18]**
  - Responsible for coordinating music performances for the annual cultural fest.
  - Assisted in the logistics of the pro-show performance.

Technical Proficiency

Programming Skills	:	Python,C,C++, MATLAB, Simulink,Verilog,VHDL,Assembly
Micro-Controller Boards	:	Arduino-[Uno,Mega], Raspberry Pi
Others	:	Git, Linux, Unity(Game Engine), LaTeX, LtSpice, Django

Relevant Courses

- **Electronics Engg:** Digital Signal Processing, Digital Communication Systems, Signals & Systems, Digital Logic Design, Opto-Nano electronics, VLSI, Analog Circuits
- **CS & Math:** Data Structures & Algorithms, Computer Networks, Computer Organization, Pattern Recognition, Web-Dev and Systems, Probability & Statistics, Complex Analysis, Differential Equations, Calculus & Linear Algebra

References

- **Dr. Rangeet Mitra**, PostDoc at École de technologie supérieure, University of Quebec, Montreal, Canada, mitra.rangeet[AT]gmail.com
- **Dr. Anish C Turlapaty**, Assistant Professor, Indian Institute of Information Technology - Sri City, anish.turlapaty[AT]gmail.com

Updated on 24th Jan 2020