Achyuth E M

Pre-Final year undergraduate, BITS Pilani K K Birla Goa Campus
✉ f20170235@goa.bits-pilani.ac.in | in Achyuth E M | +91-9611402440 | My Portfolio Website

Education

2017-current	BE(Hons.) Electronics and Communication Engineering, **BITS Pilani**	*GPA:* 9.06/10
2017	2nd PUC, State Board, **VVS Sardar Patel PU College, Bangalore**	*PERCENTAGE:* 97.67
2015	10th Standard, ICSE Board, **Sri Vani Education Centre, Bangalore**	*PERCENTAGE:* 94

Work Experience

May-July 2019 | **CSIR - Central Electronics Engineering Research Institute, Pilani**
Title of the project: Deep learning based real-time multi-person yoga posture recognition
Summer Research Intern, Supervisor: Dr. Jagdish Lal Raheja, Mr. Santosh Kumar Yadav

- Designed a deep learning model for Multi-Person Yoga Detection using Deep Learning which acts as a corrector system.
- Researched on various topics, information and algorithms that were related to the project and presented the work to mentors and senior scientists.
- Software's we worked on were Keras,Tensorflow,OpenPose,OpenCV and Python.

May-July 2019 | **CSIR - Central Electronics Engineering Research Institute, Pilani**
Title of the project: Deep learning based Fall Detection System
Summer Research Intern, Supervisor: Dr. Jagdish Lal Raheja, Mr. Santosh Kumar Yadav

- Designed an activity recognition system, with more emphasis given to recognising fall activity which can help in houses where old persons can get help quickly and dangerous implications can be averted.
- Software's we worked on were Keras,Tensorflow,OpenPose,OpenCV and Python.

Selected Projects

Aug 19 - Present | **EEG based quad-copter control reinforced with ocular feedback**
Supervisors: Dr. Veeky Baths (Associate Prof. and Dean- Alumni Relations)

- The main aim is to develop a quadcopter which can be controlled by mapping the EEG waves of the wearer of an EEG headset.
- Currently we are using the EMOTIV EPOC+, a 14 channel mobile and non-invasive headset to extract the raw EEG data and develop a classifier for performance metrics using Cykit (an open source python library)

Aug 19 - Dec 19 | **ASIC Design of an high speed 16 bit multiplier**
Supervisor: Prof. Dipankar Pal (Professor, Dept. of Electrical and Electronics Engineering)

- Designed a fast 16 bit multiplier based on Karatsuba Algorithm, which was modified for increasing the speed and decreasing the area and power consumption.
- The multiplier design was coded in Verilog, synthesized in Cadence Genus and the post implementation part was carried out in Cadence Innovus.
- Published a research paper on this and the paper is accepted in the LASCAS 2020 conference.

May 19 - Present | **Smart parking system based on IOT**
Supervisor: Mr. Pawan Sharma

- Designing a Smart parking System based on IOT. Working on Arduino UNO,Raspberry Pi 3,Sensors(Ultrasonic sensors),GSM Module,Bluetooth Module,Actuators (Servomotors).
- Received the materials and the funding required from the Director of Birla Science Museum.

Feb 19 - Apr 19 | **IC Tester**
Course Project for Microprocessors and Interfacing
Supervisor: Prof. K.R. Anupama (Professor, Dept. of Electrical and Electronics Engineering)

- Worked on assembly level programming for an x86 processor and simulated the same on Proteus.
- The details of the project can be viewed here. (IC Tester)

Achievements

2017	Came 11th rank for the state with a percentage of 97.67.
2019	Participated in many singing competitions and won laurels .

Positions of Responsibility and Teaching Experience

Jan 19 - May 19	**Teaching Assistant** , Computer Programming Course, BITS Goa
Aug 19 - Dec 19	**Teaching Assistant** , Electronics Devices course, BITS Goa
Jan 20 - May 20	**Teaching Assistant** , Microelectronics course, BITS Goa
Aug 17 - Jan 19	**Core Member** , Srutilaya Club, BITS Goa
Aug 19 - Dec 19	**Core Member** , IEEE ANTS Committee, BITS Goa
Aug 17 - Jan 19	**Core Member** , Nirmaan, BITS Goa
Aug 19 - Dec 19	**Core Member** , Student Faculty Council, BITS Goa

Research Interests

Machine Learning Computer Vision VLSI Design Control Systems Cognitive Neuroscience

Relevant Coursework

Control Systems	Digital Design	Inroduction to Cognitive Neuroscience
Microprocessors	Communication Systems	VLSI Design
Multivariate Calculus	Probability and Statistics	Differential Equations
Computer Programming	Deep Learning(Andrew NG)	Machine Learning (Andrew NG)
Python programming	Graphic Designing	Networking by Nettech

Technical Skills

Proficient	Python, MATLAB, C, Shell(Bash), Machine Learning, Deep Learning
Comfortable	C++, Verilog, LaTeX, Photoshop, Illustrator, Web Development, Networking
OS	Ubuntu, CentOS, Windows, Raspbian
Tools	CST Studio, Git, Proteus, Cadence, AutoCAD

Hobbies

- Singing
- Reading
- Playing the guitar
- Playing basketball
- Socializing

Volunteer Work

- Core member at Nirmaan Goa , a student run NGO that works for the betterment of the society.Worked for a vertical called Shiksha that aims at coaching unprivileged kids in 4th standard for an exam called JNV, which provides them with free education and other daily needs upon selection.4 students qualified in the year 2019.
- Volunteered at Art of Living, Bangalore in the summer holidays of 2018.

Certifications

- Deep Learning
- Structured Machine Learning
- Hyperparameter Tuning
- Convolutional Neural Networks
- Machine Learning
- Python Programming
- Python Data structures