Mahima M Rao

Creator, Learner, Enjoyee
Currently in 6th SEM of engineering

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(All the projects mentioned are put up here , with detail pdf attached for few)

EXPERIENCE

Service 4StartUp — Intern

February 2019 - March 2019

Python software development (frontend)

InternSoft

Jan 2020 - Feb 2020

Developed personal Assistant

CHIPS - PESU (Center of Heterogeneous and Intelligent Processing System)

Sep 2020 - present

Working On EDA tools like vivado , vtr , openlane , Qflow in teams , FPGA's , TPU simulations using scalesim .

EDUCATION

PES University, Bangalore, Karnataka — *B Tech ECE*

August 2018 - Present

1st Year 8.1 CGPA
2nd Year 7.52 CGPA
5th SEM 8.5 CGPA
Overall = 7.93 CGPA

Courses : Engineering Mathematics (1 ,2 ,3) , Quantum Mechanics , Python ,C, UNIX ,CMOS , Analog design , Digital design , Hdl , Computer organization , ANN, EDA , pattern classification , Computer networks , DSP , Digital communication , EMFTL, IOT , Microwave and antenna , Parallel and distributed computing , Linear Algebra. And all their respective labs

Sai Angels Pre University, Chikkamagaluru, Karnataka

March 2016 - July 2018

HSC 94%

SKILLS

- Programming
  - Python
  - C
  - c++
  - Matlab
  - Embedded C
- FPGA (VIvado, Xilinx)
- TPU simulation --Scalesim
- IoT
- Linux
- Standard Cell, Logic Simulation and layout design like registive amp to telescopic differential amp ,several gates etc (Cadence)
- ANN/CNN- deep learning

Maharishi Vidya Mandir, Chikkamagaluru, Karnataka — CBSE

March 2014 - March 2016

SSC 9.4 CGPA

- ML - Regressions , SVM , K means and many .
- ARM (Keil Software)
- Python - MPI,opencv
- Socket programming
- Tensorflow

PROJECTS

Image Compression

KEY :Python ,SVD, Linear Algebra

Inference: storage optimization

Sixth Sense Robot

Movement of the 3 wheeler robot based on the gesture

KEY:Computer vision -opencv , Microcontroller : Arduino , drivers ,python

Ai Personal Assistant

Voice assistant - **KEY: python and many of its library**

Can perform the following task it can open YouTube, Gmail, Google chrome and stack overflow. Predict current time, take a photo, search Wikipedia to abstract required data, predict the weather in different cities, get top headline news from Times of India and can answer computational and geographical questions too.

Smart Dam water level management system

KEY : Arduino , sensors , Drivers , wifi module , IBM watson iot platform

The sensor data collected from all dams is sent to the central cloud where data analytics is performed accordingly two planned operations can be performed From a central website 1) open gates 2) redirect water to the different valleys where there's an underflow.

The prototype was developed.

AWARDS

Distinction Award certificate (DAC) in 1st 2nd and 4th SEM,5th SEM

LANGUAGES

Kannada - native proficiency
Hindi - native proficiency
Marati -native proficiency
English - Professional proficiency

SOCIETY

- IEEE Member
- IEEE SIGHT college Society

  We had written a proposal , which is being funded by sight now .

- IEEE Photonics Society -Secretary

  We have organized several events - To which inter university students and professionals participated .

Quantum Dots :

Modeling and simulation of quantum dots

KEY : Numerical methods to solve differential Eq , Python , matlab , Nanohub quantum dot simulation , Electronic states , Energies , Hamiltonian

An ongoing project ...

Eaustive simulations were performed , prior to that a complete understanding of quantum dots using various sources . An entire course on Electronic band structure was done . Now a data set is being developed from the simulation data . Then an appropriate model will be developed which predicts which type of quantum dot to be selected for a particular condition .

It will be Extended to Mathematical modeling of Hamiltonian for each quantum dot .

Mini Applications :

Using ARM Cortex M7 , gsm, gprs , RFID , UART protocol, CAN protocol and CAN bus implementation in verilog

KEY : Embedded C, KEIL Software

We worked with microcontrollers and other hardwares . Implemented several mini applications while using these under the guidance of a professor.

Organic Drive :

Its a personal project developed to solve an ongoing crisis in Agriculture

KEY : Tensor Flow , deep learning , microcontroller , Tcp protocol , Socket programming , python .

This was short listed in **top 10 in hackathon conducted by vmware**

An ongoing personal project ...

It has deep learning model - Built using Efficient NET to identify crop

A base data model was developed to predict which crop depending on the category . An appropriate Ml model is yet to be developed to meet the condition

Parallelized neural networks using MPI :

KEY : Perceptron learning algorithm , back propagation , python MPI

I used MPI in parallelizing some of the ANN models developed , such as 7 segment digit recognition using perceptron learning algorithm , Backpropagation to predict like a formula .

HOBBIES

- Illustration of Abstract Art
- Physcology , studying humans based on intuition and experience
- Understanding Spirituality -- manifestation of energies