PAVAN M G

SOFTWARE ENGINEER

CONTACT

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Hitech City, Hyderabad, India - 500081

SKILLS

Interests: Data Structures and Algorithms, Deep Learning, Computer Vision, Embedded Systems, and Mathematical Modelling.

Languages: C/C++, Python, Perl, Bash, HTML, CSS, JavaScript.

Tools: JTAG/TRACE32, Perforce, Git, MATLAB, MS Office, VS Code.

Frameworks: Keras, OpenCV, Tkinter, etc.

EDUCATION

B.Tech - Electrical Engineering 2021
Indian Institue of Technology, Varanasi
Grade: 8.31
Academic Courses: AI, Applied Deep Learning, Natural Language Processing, Parallel Computing, Data Structures and Algorithms, C Programming, Probability and Statistics, Calculus, Numerical Techniques, Digital Electronics, etc.

XII Std - PUE, Karnataka 2017
FIITJEE P U College, Bengaluru
Percentage: 85.17
Academic Courses: Computer Science, Mathematics, Physics and Chemistry.

X Std - KSEEB, Karnataka 2015
Abhinava Bharathi High School, Mandya
Percentage: 97.92 - School Rank 1

CERTIFICATION

Coursera: Data Structures and Algorithms Specialization by UC San Deigo. Deep Learning Specialization by Deep Learning AI. Machine Learning by Stanford University.

Hackerrank: Problem Solving, C++ and Python.

PROFILES

Linkedin • Github • Hackerrank • Leetcode

LANGUAGES

English, Kannada and Hindi

WORK EXPERIENCE

Qualcomm India Private Limited, Hyderabad

Software Engineer - DDR Systems OCT 2022 - PRESENT

Associate Software Engineer - DDR Systems MAY 2021 - OCT 2022

- Involved in **Silicon Bring-up, Sub-system Initialization, and Enablement of DDR System features** for Snapdragon chipsets across various platforms, such as mobile, modem, and base station.
- **Developed drivers at Secondary Boot Loader (XBL)** to integrate DDR System Firmware, and enable DDR Training Data restore.
- **Developed Full-Stack Tool and drivers to run Debug tests** at the XBL Level to validate the Health of the DRAM Part used in Flash-less Chipsets and Chipsets with NAND, EMMC, and UFS Flash Storage.
- Involved in **fine-tuning the CNN-based model** that classifies DDR Eye Health.
- **Resolved System-level issues** by **working in collaboration** with various teams like DDR PHY, DDR SVE, ICB, NoC, etc.

Tech Stack: C/C++, Python, LPDDR, Bash, JTAG, Debugging, DS and Algorithms

Interim Engineering Intern MAY 2020 - AUG 2020

DDR Eye Health Classifier Tool Development

- Built **Algorithms** to map the relation of Vref and CDC of DDR PHY into 2D Array Data called DDR Eye Plot for enabled DDR Frequencies and Read/Write operations on DDR Sub-System of a referenced Chipset.
- Generated **Synthetic data** that mimicked the Eye Plot data from scratch to get Eye Plot samples of Specific Classes from it.
- Developed a **Multiclass Learning Model** using CNN from the data generated, and built a framework for getting the summary of belonging class and feature parameters of Eye Plot on Test oCs.
- Received a **Pre-Placement Offer.**

Tech Stack: Deep Learning, Keras, CNN, Image Processing.

FEATURED PROJECTS

Fully functional Self-driving Car Simulation. JAN 2020 - DEC 2020

B.Tech Thesis Project. Advisor: Prof Shyam Kamal, EEE, IIT (BHU), Varanasi.

- Used Computer Vision techniques like **Hough Transform** via **OpenCV** to **identify lane lines**, and **CNN model** to **identify various traffic signs.**
- **Trained CNN** via **behavioral cloning** techniques to **predict the driving steering angle** via image data from left, middle, and front-mounted cameras.
- Built a **fully functional model** to Self-Drive the Simulator car.

Modelling and simulation of photovoltaic cell FEB 2019 - APR 2019

Exploratory Project. Advisor: Prof V N Lal, EEE, IIT (BHU), Varanasi.

- Used, **Simulink** programming environment (MATLAB) to implement the Electrical modeling of PV cells.
- Developed, **Mathematical modeling** of IV characteristics in the form of continuous piecewise functions using **regression**.

Other Projects:
Assembling Genomes Using de Bruijn Graphs. Short-Term Load Forecasting using LSTM Networks. Brain Tumor Detection using Genetic Algorithms.

ACHIEVEMENTS & AWARDS

- Awarded **Qualcomm Orion Award** by Senior Director, for contribution to Core BSP Organization in 2022 and 2023.
- Secured, **All India Ranking of 3,192 in JEE Advanced 2017 (99.7 Percentile)**, among 2.2 lakh selected applicants from 1.2 million.
- Awarded Certificate of Merit - **Rank 15 in Karnataka Regional Mathematical Olympiad 2016.** Among the top 700 in the Country to qualify for Indian National Mathematical Olympiad, by HBCSE.
- Secured State **Rank 18 in the National Talent Search Examination (Stage 1)** by DSERT, Karnataka in 2015 (out of 70,000).

EXTRA-CURRICULAR ACTIVITIES

- **2 Gold, 3 Silver, and 7 Bronze medals** in **Aquatics Inter college** events during 2018 and 2019.
- Represented Mandya District in Karnataka State Level **Swimming** and **Chess** Competition 2011, 2012, 2013, and 2014.