

Harshvardhan Singh CHAWDA

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Experience

Samsung R&D Institute India – Bangalore (SRI-B)

Bengaluru, KA

Senior Software Engineer

Mar 2021 – Present

- Implemented features for 21.x releases of Samsung's 8600 and 9100 chipsets using C/C++ and performed inter-operability development testing (IODT) by analyzing PHY Controller logs and troubleshooted problems from the field and customer labs.
- Wrote Detailed Level Design (DLD) document after reviewing Random Access Channel's High-Level Design (HLD) document.

Software Engineer

June 2019 – Mar 2021

- Understanding of 5G New Radio (NR) Internal, External and 3GPP specifications.
- Full ownership of PHYC PRACH module from SRI-B for Samsung's 8600 SoC. Involved in various phases of product life cycle including design, coding, reviews, testing & integration of PRACH features in Agile Environment.
- Designed and developed automation testing scripts for Jenkins integration using Python.
- Refactored the code to improve S/W Architecture Model (SAM) score calculated using SAM-tools to improve project's KPI.
- Co-worked with HQ counterparts during my onsite visit to Samsung HQ, South Korea to optimize the RACH process by calculating the coefficients in advance, and reduced processing time and energy consumption.

Software Intern

Jan 2019 – June 2019

- Gained knowledge about the basics of 5G New Radio (NR), Wireless Communication, Beam Forming, mMIMO and PHY Layer.
- Analyzed the MATLAB code of NYUSIM simulator and integrated it with Python using oct2py to predict the blockage of a signal and hand-over of the user to another base station using Gated Recurrent Unit (GRU) with 75% accuracy.

KocharTech

Amritsar, PB

Software Intern

June 2018 – Aug 2018

- Improved the accuracy of a MobileNet Neural Network built to troubleshoot the connections of a router by clicking a picture of the router from 68% to 75% by preprocessing the images and then to 80% by using Keras implementation of RetinaNet.
- Trained a Support Vector Machine (SVM) model on a pre-trained ResNet model built using dlib Library to recognize the human face and got 85% accuracy, trained on LFW dataset (6000 images) with 1 image for each class.

Projects

WATER BED MAPPING | ARDUINO |

- Designed and built a Remotely Operated Vehicle (ROV) to create 3D topography map of water bed using LiDAR and Arduino

LANGUAGE 'N' | C++ PROGRAMMING |

- Wrote a dual-player Tic-Tac-Toe program using a newly developed language 'N' with C++ in the background during a Hackathon

THAPAR FOODIES | ANDROID DEVELOPMENT |

- App with basic functions – Sign In, Sign Out, PayU Integration etc. which lets you order food from restaurants in my college

Education & Certifications

Thapar Institute of Engineering & Technology (TIET) | Patiala, PB

2015 - 2019

Bachelor of Engineering (B.E.) in Computer Science Engineering (CSE)

CGPA: 8.16/10

- **Courses:** OOP, Networks, Compilers, Operating Systems, Data Structures, Algorithms, Machine Learning, Artificial Intelligence, Image Processing, Natural Language Processing, Data Analytics, Deep Learning

COURSERA | DeepLearning.AI | Deep Learning Specialization

2020

- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization
- Neural Networks and Deep Learning

Grade: 100%

Grade: 100%

Skills & Achievements

- **SKILLS:** C++ (*Proficient*), C, Python, OpenCV, R, JAVA, Android Development, SQL, XML, HTML, CSS, Firebase, MATLAB, Perforce, Wireless Communication, 5G, PRACH
- **ACHIEVEMENTS:** 24-hour Hackathon sponsored by KocharTech (**Winner**), TechGig Code Gladiators 2018 (**Finalist**), Udacity Google India Android Nanodegree Challenge Scholarship (**Scholar**)