

SANTOSH KRISHNAN

santosh92.kr@gmail.com,

Mobile: 9867978753

Email · <https://www.linkedin.com/in/santosh-krishnan-609947161/>

I joined straight out of graduation at Qualcomm and I have 4+ years of experience in Firmware development. My goal in life to constantly keep learning and keep myself up to date with the latest technologies. I am a team player and I have an interest in research that I try to do in my spare time.

PROFESSIONAL SUMMARY

DEC 2021 – PRESENT

SENIOR ENGINEER, EVA/COMPUTER VISION FIRMWARE, QUALCOMM

- Completely new Hardware tailored for Computer vision applications like Face detection, motion estimation, depth estimation, etc.
- Being involved right from the inception allowed me to write code, interact with colleagues spanning across multiple teams like Driver, Hardware and Systems. This allowed me to get a better understanding of the complete system and I developed important people skills to drive a task to completion
- Involved at various stages of our product release cycle, right from feature development, unit test verification on FPGA to commercialization and post commercialization support
- As the use cases grew, so did our team. I have mentored all of the members in our currently existing team. Key leadership skills have been developed along the way which enables me to delegate and assist people not just restricted Firmware but other teams as well

MAR 2019 - NOV 2021

ENGINEER, EVA/COMPUTER VISION FIRMWARE, QUALCOMM

- I have contributed to key features such as object detection, face detection, motion estimation, and many other CV use cases.
- I have also contributed in important code changes, bug fixes, customer issues vital for commercialization of various products of Qualcomm.

JUN 2018 - MAR 2019

ENGINEER, VIDEO FIRMWARE, QUALCOMM

- Write and maintain firmware code tailored for Video Hardware.
- I solved many high priority customer issues involving multiple teams, resolved many high priority bugs, made multiple changes in code to identify and fix security loopholes

JUN 2018 - MAR 2019

INTERN, MODEM FIRMWARE, QUALCOMM

- My job was to understand a decoder algorithm, Reduced state sequence estimation by reading their implementation and many IEEE papers.
- Finally, I implemented the same in Octave/MATLAB. This was used by the team for understanding and debugging actual customer issues found in the market related to it.

EDUCATION

JUN 2016- JUN 2018

MASTERS(ME), COMMUNICATION ENGINEERING, BITS PILANI, HYDERABAD

CGPA: 9.3

Notable work:

ANALYSIS AND IMPLEMENTATION OF COMPRESSED SENSING ALGORITHM IN MATLAB

- Compressed Sensing is all about sampling input at a very low frequency compared to the Nyquist sampling rate.
- Existing algorithms were implemented and a couple of novel approaches were suggested and tested on ECG signals with good results.
- Implemented LMS and its modern variants such as PNLMS, IPNLMS in the context of acoustic echo cancellation and system identification. A comprehensive analysis was performed for highly sparse, quasi-sparse and highly dispersive impulse responses in terms of their accuracy and speed of convergence.

JUN 2010 – JUN 2014

BACHELORS(BE), ELECTRONICS RAMRAO ADIK INSTITUTE OF TECHNOLOGY, MUMBAI

SKILLS

- Languages known: C, C++, Python, Octave
- Revision Control: Git, Perforce

PUBLICATION DETAILS

Conflict Resolution of Autonomous Cars using Game Theory and Cellular Automata

Published Journal, IEEE Journal Conference: International Conference on Reliability, Optimization and Information

Short Description: Designed a multi-car system in a custom environment generated in MATLAB. An algorithm was developed for successful resolution amongst cars using Game Theory and Cellular Automata. Also allowed high priority cars such as ambulances to be incorporated in the system.

About me and Extra Activities:

- Team player with a knack on getting things done. CVP Firmware team was completely new comprising of just two members from India including my manager. Therefore, I had a lot of responsibilities from the get-go. I am very receptive of feedback during code reviews and suggestions from leads.
- My work constantly involves multiple teams and I actively participate in discussions.
- Overtime I have displayed strong leadership capabilities to drive a task independently to completion.
- Quick learner and I do not shy away from new responsibilities and am very adaptive at work.
- I am constantly learning something in my spare time and over the past few months, I have been upskilling on Machine learning and Deep learning. I have written rudimentary implementations of ML algorithms from scratch of Naive Bayes, k- nearest neighbors, decision trees, perceptron. For neural networks, I've implemented feedforward networks, backpropagation with one hidden layer from scratch. Well versed with the theory of modern deep learning techniques like RNNs and CNNs.
Well versed with reinforcement learning. I have implemented epsilon greedy, UCB1, policy iteration, value iteration, Monte Carlo and Q learning.
- To unwind, I play the keyboard whenever I can.