Mohith K Parihar

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Education

PES Institute of Technology — Bengaluru, India
B.E. in Electronics and Communication Engineering; ***CGPA: 8.68/10*** — *Aug 2016 – June 2020*

Work Experience

Astrome Technologies Pvt. Ltd. — Bengaluru, India
Software Systems Lead — *Jan 2023 – Present, Full-time*

- Leading a team of 12 in managing end-to-end Software Development, overseeing everything from RTL, Python, C++, and NodeJS.
- Elevated and refined the GigaMesh Software stack, achieving deployment readiness and playing a pivotal role in the successful implementation of the product across multiple sites under the USOF project by the Department of Telecommunications of India.
- Spearheading the revamping of the entire Baseband architecture for the next version of GigaMesh.
- Led and facilitated all necessary efforts for the software clearance of GigaMesh devices, resulting in the successful attainment of TEC certification.
- Continuously driving development activities from my previous role.

Astrome Technologies Pvt. Ltd. — Bengaluru, India
Digital Communication and Embedded Systems Engineer — *Jul 2020 – Jan 2023, Full-time*

- Designing and Verifying Signal Processing and Baseband blocks in HDL, along with Simulation, Synthesis and Implementation.
- Researching improvements in the current OFDM schema to improve efficiency and reduce PAPR.
- Developing Embedded Linux drivers and applications for the GigaMesh product on Microblaze and Zynq-SoC platforms.
- Developing Control algorithms for 3-axis active stabilization of Phased-Array Antennae.
- Assisting in Circuit Design - Schematic development, Review and Fabrication.
- Developing and solely maintaining the entire System Controller software base.
- Field testing the premier product prototype and carrying out demos for potential customers.

PES University Research Foundation — Bengaluru, India
Student Researcher — *Dec 2018 – April 2020, Research*

- Carried out the testing and further development of the Agrificial system, researching suitable environments and conditions for different plant species.
- Improved the design of the tower - to improve water facilitation, light-sourcing, and to include various plants.

Projects

Visual Microphone | *GitHub*

- When sound hits an object, it causes small vibrations of the object's surface. We show how, using only high-speed video of the object, we can extract those minute vibrations and partially recover the sound that produced them, allowing us to turn everyday objects—a glass of water, a potted plant, a box of tissues, or a bag of chips—into visual microphones.

Agrificial - Intelligent Aeroponic System

- Aeroponics is the process of growing plants in an air or mist environment without the use of soil or an aggregate medium.We intend to develop the existing Aeroponic models to make them more efficient and automated.We plan to bring down the cost by optimal sensor placing and creating an overall intelligent space by making a feedback Artificial Neural Network (ANN) model which will aim to identify the correct temperature, humidity, nutrient content and other ambient conditions in the environment and completely automate the entire cultivation process.

Gauntlet - Gesture to Speech | *GitHub*

- Gesture to speech conversion for easier communication for the physically challenged - This project intends to provide a way for the speech impaired to easily communicate with others. It enables reliable conversion of sign language into spoken English with the help of machine learning.

Skills

Languages: C/C++, Python, System-Verilog, Verilog, MATLAB

Technologies: FPGA, Embedded Linux, RTOS, KiCAD, Xilinx Vivado, GNU Radio