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EDUCATION

Sree Chitra Thirunal College of Engineering; University of Kerala

Bachelor of Technology in Electronics and Communication

Kerala, India Aug. 2010 - April 2014

EXPERIENCE

Research Associate

Free/Libre and Open Source Software for Education—FOSSEE, IIT Bombay

Mumbai, India July 2017 - Present

- OpenPLC: Development of IEC61131-3 and IEC61499 standard PLCs for educational purposes.
 - * Hardware/Electronics Design: PCB design, layout, prototyping and testing. Designed power management, communication, ADC and interfacing elements.
 - * Embedded Software/Firmware: Developed Firmware for controllers, application software and scripts for Linux running in single board computers. Built bespoke Linux images from source using Yocto.
 - * System Design: Logical design, Physical design, Architectural design, and analysis of PLC system complying with the IEC 61131-3 & 61499 standards.
- o Documentation: Managed the creation of tutorials for OpenPLC and its sister hardware projects, in the SpokenTutorial platform of Government of India.
- Teachers Training: Lead a team of 6 in conducting technical workshops on behalf of FOSSEE, for faculties and students, in engineering and polytechnic colleges.
- Mentor: Identification, selection and mentoring of FOSSEE summer fellows from all over India.

FabLab Kerala— KSUM, Govt. of Kerala.

Kerala, India

Technical Associate

December 2016 - July 2017

- o Technical Associate: Technical associate to artists of Kochi Muziris Biennale on behalf of KSUM.
- Fab Academy Instructor: Course instructor and evaluator at Trivandrum Fab Lab for the batch of 2017.
- o Mini-FabLabs: Setup mini-fablabs in association with Fab Foundation, across the state.

Kerala Startup Mission— KSUM, Govt. of Kerala.

Kerala, India

Technology Innovation Fellow

June 2015 - June 2016

- o Fab Lab: Setup Fab Labs in Trivandrum and Kochi. Developed and mentored research projects at Fab Labs.
- o Technical Consultant: Rapid prototyping consultant at Fab Lab for start-ups, engineering colleges, NGOs etc.
- State Policy Agent: Implementation and monitoring of entrepreneurship development programs of Kerala State government's startup policy.

Sahridhaya— NGO

Kerala, India

Trustee

June 2012 - Present

• Head of R&D: Developed various educational tools and programs for teaching STEM among school students. Organized and volunteered for numerous social activities in the state, latest during the devastating Kerala floods.

Projects

- PROTON: An Arduino based development board with a battery of on-board sensors and actuators bundled with provisions for multiple communication technologies.
- CoW-Net: A research project that deployed an open-wireless network in a Panchayat connecting the local populace with modern tech-enabled services like instant messaging, geo-tagging, educational content portals etc.
- S² Smart Switch: An IOT enabled power-switch which can be controlled over internet.
- Hypothermia detector: A functional prototype, with a system made of an Attiny 45 and an NTC thermostat.
- Mind Controlled Wheelchair: Proof-of-concept of an EEG controlled wheelchair for individuals with limited motor abilities.

CERTIFICATES AND AWARDS

- Management Development Program: IIM Kozhikode 2016
- Fab Academy Diploma in Digital Fabrication: Fab Foundation 2016
- Manorama Yuva Master Mind: Malayala Manorama 2012

Publications

"Programmable Logic Controller: Open Source Hardware and Software for Massive Training" at IECON'18, Washinton D.C, USA: 2018 — LINK

Design and Engineering Skills

• Languages: Embedded C, Arduino, C/C++ Technologies: EDA, ARM, Linux, Yocto, RaspberryPi, STM Boards