Adeesh Kale

Embedded Software Engineer

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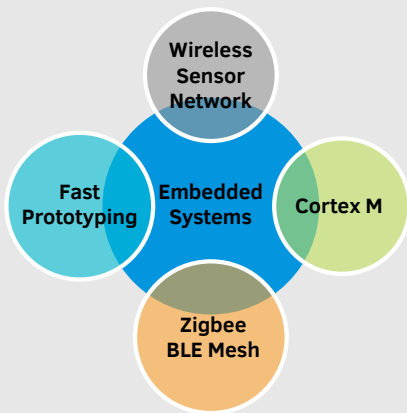
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Technical Skills ──

Overview

Programming

C • Python

C++ • SQL • Shell • Java

Protocols

Zigbee, BLE Mesh, Wifi, MQTT, DALI, MODBUS, BACNET

Education

MTech., Electrical Engineering
Specialization: Control and Computing
Indian Institute of Technology Bombay
2013 - 2016 | Mumbai, India

BE., Electrical Engineering
Specialization: Communication
Medicaps Instt. of Tech. and Mgmt.
2009 - 2013 | Indore, India

Summary

I am passionate about creating systems, technologies and products for IoT. I am a team player and can be relied on to handle complex tasks on time and in an efficient manner. I like challenging problems and believe in life-long learning so that I can design and implement state of the art solutions to real-world problems.

Experience

Nov 2019 - Present — **Embedded Software Engineer** *Digitectura*

- **Sensor Network for Smart Building** [Nov 2019 - Ongoing] (BLE Mesh)
  - Collaborated with software and hardware team to develop a complete building automation system based on BLE mesh sensor network.
  - Developed embedded firmware for low power sensor nodes, BLE to proprietary protocol gateway and embedded provisioner.
  - Developed software to run in OpenWRT embedded linux for BLE mesh to DigiNet over TCP/IP gateway device using Linkit 7688.
  - Developed cross platform software in C and Python for emulation of controller network to test and validate sensor network.

Apr 2017 - Nov 2019 — **Systems Engineer** *SenZopt*

- **Lighting and AC Automation** [Oct 2018 - Oct 2019] (ZigBee; DALI; BACNET over MSTP; MODBUS)
  - Engaged with hardware and software team to design a configurable, responsive wireless multi-sensor network.
  - I wrote the application and driver firmware for the DALI controller and managed junior colleagues to develop the various sensor firmware.
  - Studied VAV control and wrote firmware for a wireless node to control VAV using either 0-10V or MSTP.
- **Upgrade of Gateway device** [Sept 2018 - Oct 2019] (ZigBee, Wifi, BLE, RS485)
  - Worked in a team of 3 to add a new Python based backend using Tornado.
  - Added websockets, MQTT, I2C, BLE communication modules to the Python backend
  - Debugged and added functionality to the existing C++ based application to support new devices and features.

Sep 2016 - Feb 2017 — **Game Developer** *Akatsuki Taiwan Inc.*

- Debugging and maintenance for the mobile game *Tales of Link* - Fixed bugs in Unit tests on server side and optimized database access.

Aug 2013 - May 2016 — **Graduate Research Assistant** *IIT Bombay*

- Designed and built hardware and software for lab experiment setups, with 2 other RAs and was Sysadmin for grad and PhD labs

Other Accomplishments, Activities and Interests

- Created a mobile app for mobile ECG product, for Edison 2016 challenge sponsored by General Electric; achieved 3rd place.
- I like working with DIY devices. In my free time I've compiled and installed home automation and security system with app based monitoring and control for friends.