

POORVAJ RAVICHANDRAN VENKATRAMAN

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OBJECTIVE

A Motivated Engineer willing to stretch that extra mile to achieve the new-age innovation. With great leadership skills and an Engineering Management MS Degree that complements the Electrical Engineering MS Degree, I would love to take on Mid-Senior Roles in the Engineering Sector that strives towards excellence.

EXPERIENCE

Embedded Engineer | Harley-Davidson Motor Company | December 2020 – Present |

- Testing and Validation – Next Generation Electric Vehicles; HIL Systems Testing and Validation using NI VeriStand and NI TestStand
- Development and Testing of In-House GUI Tool to manage Test Cases, Test Runs in Helix Requirements Software using Python Libraries and Qt Designer
- Improved Skills: NI Veristand, NI TestStand, Python, Qt Designer, CAN Messages Rx and Tx, XCP Messages, Helix Requirements Platform

Embedded Software Engineer | Rivian Automotive | February 2020 – November 2020 |

- Design and formulate the New In-house Rivian Architecture Tooling (RAT) with the use of CAN Libraries – notably .dbc, .ldf, ethernet generated files.
- Develop a robust tool with good architecture with C files as the output platform of the messages in the Embedded ECU.
- Obtain Network statistics of the files for different simulation situations and populate bytes of information flow at various cycle times or at a given instant. Compare the statistics with available ECUs
- Improved Skills: Python, .dbc/.ldf files, CAN Libraries, Network Statistics of CAN Signals

Junior Principal IoT Engineer | Charter Communications | January 2019 – January 2020 |

- One Year Research Program for Smart City Platform with RFI and RFP Focused Proof of Concept
- Video Analytics for Internet of Things devices in the field of Wireless Engineering in the Research Wing for Smart City Development
- Debugging and Testing IoT Devices for Smart City Platforms – Amalgamation of Sensors for Smart Lighting, Smart Traffic Signals, Smart Parking which encompasses Smart City.
- Proof of Concept: Acquiring specific Sensor data into databases for Dashboard Visualization
- Proof of Concept: Research of different cameras to develop object/person identification in OpenCV and TensorFlow
- Improved skills: C++, Python Programming; SQL Databases, AWS

Junior Engineer | Grabango Co., | July 2017 – January 2019 |

- Firmware Testing and Verification of company specific hardware. Testing based on Simulated environments.
- Scripting Automation in Devices for Specific Requirements. Use of bash, python, and C.
- Systems level packaging applications over the repository. Use of Kubernetes, Helm, Docker, and Nix Packaging
- Worked in Computer Vision in Detection and Analysis of videos. OpenCV taking precedence. C++ used extensively.
- Research on deployment of application interface on different cloud platforms. Research on AWS, Google Cloud and Azure.
- Improved Skills: Open CV, Python, C, Bash, Docker, Kubernetes, AWS, Firmware Testing

Engineering Intern | Notion Ink Design Labs Pvt. Ltd. | January-February 2015 |

- Project title "Autonomous Device with sub-1Ghz Wireless Communication and Object Tracking Capabilities in Indoor Environments".
- Peer to Peer Communication between TI MSP430 using Code Composer Studio operating in 387-464 MHz range with Object tracking.
- Emphasis on Low Power. Applications include Indoor surveillance and analysis. C++ used extensively in CCS.
- Improved Skills: C++, Radio Transceiver - Tx and Rx Sub 1-Ghz Peer-to-Peer Communication, Object Tracking and Navigation.

SKILL SET

- **Technical Languages:** Advanced – Python, C, C++, Open CV, TensorFlow, Verilog, VHDL, Kotlin; Basic – SQL, HTML, RTOS
- **Software IDE:** Quartus, Diamond, Smart Fusion, WinCUPL, WinSim, EdSim51, MATLAB, Xilinx, Network Monitor, Wireshark, Code::Blocks, PSoC Creator, Arduino, Simplicity Studio, Code Composer Studio, OrCAD, Ki CAD, Altium Designer, PyCharm, JetBrains

EDUCATION

Master of Science | Engineering Management | International Technological University | May 2021 |

4.00 CGPA out of 4.00

- Courses: Principles of Engineering Management, Product Management, Mobile Applications and IoT Development for Entrepreneurs, Project Management, Organization Management, Business Process Management, Technology Management and Entrepreneurship, Critical Thinking Strategies in Decision Making, Capstone Project.

Master of Science | Electrical Engineering | University of Colorado Boulder | May 2017 | 3.2 CGPA out of 4.00

- Courses: Programmable System on a Chip, Computer Aided Verification, Embedded System Design, Advanced Computer Architecture, Wireless LANs, Computer and Machine Vision Systems, Embedding Sensors and Actuators, Secure Embedded Programming, Real Time Embedded Systems, Mobile Computing & Internet of Things.

Bachelor of Engineering | Electronics and Communication Engineering | Anna University | May 2015 |

8.12 CGPA out of 10.00

- Notable Courses: Embedded and Real Time Systems, VLSI Design, Microprocessors and Microcontrollers, Computer Architecture and Organization, Electronic Circuits, Computer Networks, Data Structures and OOPS, Wireless Communication

PROJECTS

Hydroponic Control System | Capstone Project | January – April 2021 |

- Design and construct a hydroponic control system that processes signals and controls output based on operational criteria and type. Control system integrates well with connected Sensors - CO₂, pH, Temperature, Electrical Conductivity and Humidity and displays the information onto a dashboard.
- Dashboard uses a user authentication using RDS Database in AWS Cloud to display pertinent plant information associated to specific user.
- System capable of Control, Monitor and Managing Vegetable Plantation in an Indoor Environment at the user discretion.
- Flask based application built using Python with real time sensor values in web browser using Beagle Bone Black and Arduino Yun.

'Vanadis Cosmetic' | Business Process Management | September – December 2020 |

- Comprehensive SWOT Analysis of a Business
- Process Roadmap Development
- Monitoring and Measuring Success
- Risk Management
- Implementation Strategy of the Plan

'IoT Smart City' | Project Management | November - December 2020 |

- Draft a Project Plan with Project Definition, Goals, Scope, Assumptions, Constraints, Quality Management.
- Draft a Work Breakdown Structure, Effort Estimation, Change and Issue Management, Standards etc.,
- Draft Project-Work Plan, PERT Chart, Risk Assessment Report, Budget Report, Impact Report and Sign-off Sheets.

'Open Sesame' – Android Kotlin based Garage Door Opener | Mobile Applications and IoT Development for Entrepreneurs | August 2020 |

- Develop a robust application to handle the parking in a garage of homeowners and tenants with garages eliminating the need to carry and extra device (remote device) for the functioning.
- Gives the special ability to keep improving on the technology as the Smartphones evolve rather than changing the hardware often.
- The backend is managed by Firebase (Google). The user authentication is through E-mail sign in. Information storage is done using the Google Database Management.
- Developed in Android Studio on Pixel 2 Device Emulator using the Language Kotlin.
- Follow the project at: www.github.com/poorvajrv/open-sesame.

Smart Community Parking System | Mobile Computing and IoT | April 2017 |

- Safe and Secure Parking System in a community using sensor – Ambient Light, RFID, Motion Detector using Leopard Gecko EFM 32 and Atmel SAMB11; Solo-Project.
- Minimum Energy Consumption; I2C Connection, LEUART Transmission and Reception; Language used: C++

Motion Controlled Bot and Persistence of Vision | Embedded System Design | May 2016 |

- KL-25Z Freescale Freedom Board (ARM Cortex M0+) and ATTiny85 microprocessors; Ultrasonic sensors, I2C, LCD and Motor Driver Interface.
- Enhanced to work in Dual Mode: Autonomous mode to maneuver on its own with capabilities to detect obstacles. Human Control Mode available through a switch. Role was to work on the communication from Joystick to Bot and on the Persistence of Vision which displays clock and other commands.

Face Detection and Tracking using OpenCV in Live and Stored Video | Computer and Machine Vision System | July 2016 |

- Face Detection and Tracking Objects using Open CV in a two-plane system modifying Haar-Cascades algorithm
- Solo Project; Developing an alternate version of Object tracking system; OpenCV in Linux Environment. Language Used: C++