Zulaikha Zakiullah

2B Electrical Engineering

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Skills

Languages: Python, Java, C/C++, JavaScript, TypeScript, C#, Ruby, MATLAB, ARM Assembly, VHDL
Hardware: Arduino, STM32F-, OpenOCD, FreeRTOS, Altium CircuitMaker, Proteus, Quartus, PSIM
Frontend: HTML, CSS, React, Vue, Angular, jQuery, Bootstrap, Tailwind CSS, Liquid
Backend: Node.js, Express.js, .NET, NGINX, REST, SQL, GraphQL
Other: Git, Linux/Unix, Android Studio, Jenkins, Jira, Vagrant, PyQt, Pandas, Swing, JUnit

Experience

Ford Motor Company | *Software Developer* **Jan 2021 – Apr 2021**

- Developed an API to determine enabling of controls on infotainment system based on vehicle's geographic location
- Integrated runtime resource overlay packages in Android OS for vehicle's infotainment system to load specific app restrictions depending on its location, to ensure all vehicles adhere to driving standards set per country
- Enhanced team's unit test suite using Java, JUnit, and Robolectric to increase code coverage by over 20%

Ford Motor Company | *Test Automation Developer* **May 2020 – Aug 2020**

- Designed an automated job to run monthly using Python and Jenkins DSL to delete all unused workspaces in Jenkins machines, speeding up the testing pipeline
- Developed a command line tool with Python and Click to save developers' time by remotely controlling services on any Jenkins machine through SSH as opposed to using RDP
- Created an API implementing the façade design pattern to abstract away unnecessary implementation details, allowing for easier and faster usage

Waterloo Formula Electric | *Firmware Developer* **Sep 2019 – Present**

- Improved state machine design of power distribution unit to run motor and motor control cooling loops separately, allowing for more efficient use of vehicle's cooling system
- Created the firmware team's development environment running on Ubuntu using Vagrant and Ruby
- Developed CAN message simulator using Python and CAN tools through parsing of DBC and JSON files, allowing for easy remote testing of tools such as car's dashboard and telemetry
- Designed car dashboard with Python and PyQt and connected to CAN logging backend to update vehicle stats in real time
- Reduced CRC calculation time by over 80% by implementing STM32 HAL library to replace use of software lookup tables

Projects

Personal Site Personal site with custom UI components and light/dark mode using React and Tailwind CSS
UWOSP Site Revamped Orphan Sponsorship Program website using Shopify Liquid, HTML, CSS, and JavaScript
Arduino Car Simple three-wheeled car using an Arduino Uno and two L298N drivers to run the rear wheels
EZ-E Bot Discord bot using Node.js that sends scheduled reminders based on cron expressions set by the user
Smash Bros Single player 2D platformer fighting game using Java and Swing GUI allowing up to 3 computer players

Education

University of Waterloo (Expected) **2019 – 2024**

Candidate for BASc in Electrical Engineering | **cGPA: 90.3%**

- **Relevant Courses:** Data Structures and Algorithms (C++), Digital Computers (ARM Assembly), Electromechanical Energy Conversion, Instrumentation and Prototyping Laboratory (C / STM32F- / Proteus), Semiconductor Physics and Devices