Keeshigan Pirabaharan

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Design: SolidWorks, AutoCAD, MATLAB/Simulink, Quartus, EAGLE, CNC Programming (EdgeCAM)

Languages: C/C++, Java, Python, Kotlin, Assembly Language

Software/Tools: Raspberry Pi, Arduino, Linux, Firebase, Git, Open-CV, Android Studios, Real-time Operating Systems (RTOS), Visual Studios, Communication/Automation Protocols, MS Office, PLC Programming

Professional Experience

Project Management | Ontario Power Generation, Pickering ON — July 2020 – July 2021

- Managed small scale projects (< $200k) requiring engineering changes to the plant
- Assisted senior project managers with capital project (>$200k), including coordination with internal stakeholder and EPC contractors to ensure project success
- Managed Minor Projects' MS Access database used by management for project monitoring (Power BI)
- Exposure to industrial operations, complex system processes, and practical failure modes
- Exposure to technical work done in both mechanical and electrical modifications

Projects

Capstone Project – Smart Home Window — September 2021 – Present

- Implemented software design through Python programming to automate window and blind system
- Developed detailed design descriptions and methodologies to optimize the project by capstone deadlines
- Designed Android application that allows users to adjust different program modes with geofence capabilities
- Used SolidWorks to design housings and components and conduct simulations to validate designs

Motion Detection Surveillance Camera — May 2020 – June 2021

- Connected and sent live feed video from a camera connected to Raspberry Pi to an Android App
- RPi recorded surveillance footage when human motion was detected using OpenCV-Python
- Troubleshooted facial/body recognition to improve human detection to 95% accuracy

Autonomous Part Collecting Robot — January 2019 – April 2019

- Designed Arduino robot that has the capability to collect, sort and transfer items based on their material
- Used C++ to implement robotic functions, apply movement logic and configure sensors and encoders
- Used SolidWorks to prototype, design, and 3D-print robot chassis

EDUCATION

B.E.Sc. – Mechatronic Systems Engineering — September 2017 – April 2022*

University of Western Ontario, London, Ontario