Matthew Ruigrok

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EDUCATION

McMaster University, Hamilton, ON
Bachelor of Engineering Co-op (B. Eng), Mechatronics   GPA: 4.0
Expected Graduation - December 2021

RELEVANT COURSES

- Software Development   • Data Structures and Algorithms   • Operating Systems
- Predictive & Intelligent Control • Embedded Systems • Real-Time Systems

TECHNICAL SKILLS

Languages: C/C++, Python, Matlab, Java, JavaScript, HTML, CSS
Libraries and Tools: Git, Eclipse, IntelliJ, numpy, pandas, openCV, sklearn, librosa
Other: Simulink, Inventor, Cura, OpenSCAD, LabView, GT Suite, AVL, Keil IDE

PROJECTS

Cloud Based Home Automation System
- Working in a team of 4 to develop a smart vent and blind actuation system that automates the opening and closing to reduce household energy consumption
- Using Node.js and Postgres for the backend and Arduino for embedded code

Smart Response
- Built an app using Python, React Native and Node.js to notify first responders of potentially life-threatening events within seconds using live data from cityIQ nodes

Pacemaker Software Project
- Programmed NXP microcontroller to deliver rate-adaptive pulses in 10 different modes using Matlab and Simulink and built a supporting GUI using Node.js

GraphDB
- Basic database-like program built using Java that allows the user to create, search, save and reproduce graphs, which contain unique nodes and relationships

Autonomous Car Simulation
- Using Python to implement and train a model that will determine WASD key presses according to current screen capture in order to navigate a road course

EXPERIENCE

Thermal Controls Engineering Intern, Fiat-Chrysler   June 2020 - Aug 2020
- Developed a complete coolant flow model for a specific platform of electric vehicles using GT Suite tools such as GT-ISE, GT-POST and COOL3D
- Used Matlab and Simulink to implement coolant pump controllers and run a co-simulation with coolant flow model to verify specific flow targets could be reached

Maintenance Technician, MB Animal Health   June 2016 - Sep 2019
- Hands-on experience wiring control devices into PLC cabinets such as 3-phase motor contactors, pneumatic solenoids, variable speed drives and level indicators

Volunteer Hockey Instructor   Sep 2012 - Apr 2019
- Demonstrated leadership and problem-solving while running skill sessions

ADDITIONAL ACTIVITIES

- Deltahacks VI • Intramural Floorball   • Dunnville United Soccer Club
- CEHL Hockey   • Jr. B Hockey (2016-19)   • Woodworking • Metal Fabrication

AWARDS

Voiko Loukanov Engineering Scholarship	2020
Dean's Honour List	2019, 2020
Pelham Panthers Jr. B Hockey Leading Scorer (2 times)	2017-19
Governor General's Academic Medal (Dunnville Secondary highest average)	2016