

# Matthew Ruigrok

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<b>EDUCATION</b>	<b>McMaster University</b> , Hamilton, ON <i>Bachelor of Engineering Co-op (B. Eng)</i> , Mechatronics Expected Graduation - Dec 2021	GPA: 4.0
<b>RELEVANT COURSES</b>	• Software Development • Data Structures & Algorithms • Operating Systems • Robotics • Predictive & Intelligent Control • Embedded Systems	
<b>TECHNICAL SKILLS</b>	<b>Languages:</b> C/C++, Python, Java, Matlab, Node.js, Verilog HDL, SQL <b>Libraries and Tools:</b> Git, Eclipse, IntelliJ, numpy, pandas, openCV, sklearn, librosa <b>Other:</b> Simulink, Inventor, Cura, OpenSCAD, LabView, GT Suite, AVL, Keil IDE	
<b>PROJECTS</b>	<b>Cloud Based Home Automation System</b> <ul style="list-style-type: none"><li>• Working in a team of 4 with an industrial sponsor to develop a smart vent and blind actuation system in order to reduce household energy consumption</li><li>• Responsibilities included CAD design and embedded code development</li></ul> <b>Smart Response</b> <ul style="list-style-type: none"><li>• 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</li></ul> <b>Pacemaker Software Project</b> <ul style="list-style-type: none"><li>• Programmed NXP microcontroller using Matlab and Simulink to deliver rate-adaptive pulses in 10 different modes and built a supporting GUI using Node.js</li></ul> <b>GraphDB</b> <ul style="list-style-type: none"><li>• Basic database-like program built using Java that allows the user to create, search, save, and reproduce graphs, which contain unique nodes and relationships</li></ul> <b>Autonomous Car Simulation</b> <ul style="list-style-type: none"><li>• Used Python to implement and train a model that will determine WASD key presses in order to navigate a simulated road course</li></ul>	
<b>EXPERIENCE</b>	<b>Controls Engineering Intern</b> , Fiat-Chrysler • Developed a complete coolant flow model for a specific platform of electric vehicles using GT Suite tools, Matlab, and Simulink • Implemented a coolant pump controller and ran a co-simulation with the coolant flow model to verify specific flow targets could be reached	June 2020 - Aug 2020
	<b>Maintenance Technician</b> , MB Animal Health • Hands-on experience wiring control devices into PLC cabinets such as 3-phase motor contactors, pneumatic solenoids, variable speed drives, and level indicators	June 2016 - Sep 2019
	<b>Volunteer Hockey Instructor</b> • Demonstrated leadership and problem-solving while running skill sessions	Sep 2012 - Apr 2019
<b>ADDITIONAL ACTIVITIES</b>	• Deltahacks VI • Intramural Floorball • Dunnville United Soccer Club • CEHL Hockey • Jr. B Hockey (2016-19) • Woodworking • Metal Fabrication	
<b>AWARDS</b>	Voiko Loukanov Engineering Scholarship Dean's Honour List Pelham Panthers Jr. B Hockey Leading Scorer Governor General's Academic Medal (Dunnville Secondary highest average)	2020 2019, 2020 2018, 2019 2016