Youngwoo Lee

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Summary of Skills

Technical		Software		Soft Skills	
o Excel	o Access	o VBA	o Python:	o Initiative	o Teamwork
o AutoCAD	o Plant 3D	o SQL	• NumPy	o Adaptable	o Learner
o COMSOL	o Simulink	o JavaScript	• pyFirmata	o Creative Problem-solver	
o SOLIDWORKS		o HTML/CSS	• Matplotlib	o Independent Worker	

Experience

Vehicle Planning Intern   **Sept 2021-Dec 2021**

Nissan Canada, Office Location: Remote

- o Worked alongside Vehicle Planning team to develop VBA macros for automating repetitive tasks in Excel
- o Employed algorithms like binary search to shorten hour-long manual allocation tasks into sub 2 second button presses, all while eliminating possibility of human error and flagging any irregularities
- o Demonstrated initiative and forward-thinking by shadowing coworkers, analyzing their workflow, and coming up with and executing project ideas to make their work easier

Undergraduate Research Assistant   **Jan 2021-Apr 2021**

University of Waterloo, Engineering 6 Building

- o Co-authored 3 li-ion battery and fuel cell related research papers working under Prof. Michael Fowler
- o Modelled thermal and electrical properties of battery pack using Simulink and SOLIDWORKS to determine effectiveness of new SIGMAclad 60 material as an aluminum replacement in busbars
- o Used MATLAB and Python libraries NumPy and PyTorch for analysis of air pollution simulation data

Network Technologist   **Jun 2020-Aug 2020**

Rogers Communications, Office Location: Remote

- o Merged various Excel trackers into cohesive Access database to boost efficiency for wireless network team
- o Developed forms, reports, and SQL queries to create a user-friendly and powerful Front-End environment
- o Designed algorithm to identify 4000 cell tower data records with inconsistencies, scrutinized civil engineering documents like I&M reports and tower blueprints to validate these records

Midnight Sun Design Team   **Sept 2019-Dec 2019**

University of Waterloo, Engineering 5 Building

- o Developed teamwork and interdepartmental collaboration skills working as part of design team to create a 4-person solar powered car for the 2020 American Solar Challenge
- o Applied safety principles while utilizing industrial grade 450°C soldering iron to build sensitive car sensor
- o Interpreted complex schematics in teams of 4 to assemble PCBs critical to car's power distribution system

Co-Authored Publications

- o A Review of Heavy-Duty Vehicle Powertrain Technologies: Diesel Engine Vehicles, Battery Electric Vehicles, and Hydrogen Fuel Cell Electric Vehicles [https://doi.org/10.3390/cleantechnol3020028]
- o Health Cost Estimation of Traffic-Related Air Pollution and Assessing the Pollution Reduction Potential of Zero-Emission Vehicles in Toronto, Canada [https://doi.org/10.3390/en14164956]

Education

Candidate for BASc in Honours Chemical Engineering   **Sept 2019-Present**

Hobbies and Interests

o Basketball	o Hockey	o Swimming	o Music	o Plastic model kits