**SEVERN LORTIE**
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## EDUCATION

**Bachelor of Computer Engineering**
*Smith Engineering at Queen's University* *September 2020 – April 2025*

- Relevant courses: Digital Systems, Embedded Systems, Operating Systems, Computer Networks.

## AWARDS

- 2020, 2021, 2022, and 2023 Dean's List at Queen's
- Queen's Principal's Scholarship Entrance Award
- 2nd Place Paper at Canadian Undergraduate Conference on AI (CUCAI) 2023
- Winner of Amazon's HACKTO Hackathon, 2022

## INTERNSHIPS

**Computer Engineering Intern**, Distributive Corp.
*Kingston, Ontario* *May 2023 – August 2024*
Secured a 16-month internship at a tech start-up working to build parallel computing solutions using web technologies.

- Created a demo of Large Language Model (LLM) inferencing on Distributive's parallel computing platform. Presented the application in front of Nokia's CTO and AI/HPC lead, assisting in Distributive's pitch to Nokia, which resulted in follow-up meetings and the start of a collaboration with the company.
- Researched methods of monitoring distributed system performance. Implemented dashboard to aggregate and analyze performance data on the company's system. Research revealed performance issues with web workers, leading to a fix and average 30-minute reduction in slice scheduling time.
- Developed novel debugging solution for embedded V8 worker nodes. Designed a non-blocking WebSocket server that enabled communication between the worker and the Chrome DevTools Protocol. Project resulted in a user-friendly suite of debugging software. Team members used the debugger to fix 5 critical bugs in the product.

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## CONFERENCES

**Corn Yield Estimation using Deep Learning and UAV Imagery**

*Canadian Undergraduate Conference on AI, Kingston, Ontario* *March 2023*

Worked with a team of engineering students to research, train, and deploy an AI model for crop yield estimation. Paper submitted to CUCAI based on this project won second place out of 25 submissions.

- Trained and tested three candidate models on aerial imagery of corn fields. Coauthored the final paper based on research findings.
- Worked on demo application for final product that allowed clients to upload their own UAV imagery and view model inference results.

## TEACHING EXPERIENCE

**TA for Data Structures and Algorithms (MREN 178)**

*Smith Engineering, Queen's* *January 2023 – April 2023*

- Planned and delivered 50-minute lessons on topics like linked lists, graphs, and trees for tutorial sessions. Continually incorporated student feedback to reinforce key concepts. Received positive feedback from dozens of students directly and through course instructor.
- On own initiative, held an hour-long exam review session for students which went over all the course units. At students' request, worked with course instructor to develop a solutions package for previous exam questions.

## CLUBS

**Queen's VEX Robotics,** Firmware Team *September 2023 – August 2024*

- Devised high baud rate Lidar and Rotary Encoder communication channel using RP2040 microcontrollers for the team's robot.
- The team passed qualifiers and competed using the communication subsystem at the annual VEX U Robotics World Championship in Dallas, Texas. The subsystem ran without issue during trials at competition, enabling the robot to perform its localization and mapping tasks.

**Queen's Soft Robotics Team,** Electrical Team Lead *August 2022 – April 2023*

- Led a team researching lightweight, untethered power supplies for Peano-HASEL actuators.
- Played a key role in reaching a solution for a low-cost, low-power demand converter that could be used for the actuators.