
TECHNICAL SKILLS

- ▶ **Languages/frameworks:** Java (4 yrs) · Python/PyTorch · C++ (3 yrs) · C · JavaScript/jQuery (4 yrs) · HTML (4 yrs) · CSS/Sass (4 yrs) · PHP · Bootstrap · C# · Bash · MATLAB · LaTeX
- ▶ **Software tools:** Git · Unity · Xcode · Eclipse · Vim

EXPERIENCE

- Research Intern, Uber Advanced Technology Group** 2020
 - ▶ Developed software to merge simulated and real driving scenarios to test self-driving vehicles
 - ▶ Used optimization techniques with **PyTorch** to automate creation of challenging scenarios
- Organizer and Problem Setter, DMOJ Monthly Open Programming Contests** 2018–Present
 - ▶ Organized the DMOPC, a series of competitions culminating in the Don Mills Programming Gala (dmoj.ca/dmpg), a province-wide coding contest with 200+ participants
 - ▶ Authored, created test data for, and wrote **C++** reference solutions to 40+ programming challenges
 - ▶ Responded to clarification requests during contests
- Vice President, MGCI Computer Science Club** 2018–2019
 - ▶ Lectured about algorithms and data structures and provided individual programming help to Marc Garneau Collegiate Institute students at weekly club meetings

AWARDS

- International Olympiad in Informatics, Japan • Silver Medal** 2018
 - ▶ Chosen to represent Canada at prestigious international programming competition
 - ▶ Placed 72nd of 335 contestants chosen from 87 countries
 - ▶ Top-ranking female participant overall, as well as first-ever female participant from Canada
- Canadian Computing Olympiad • 1x Gold Medal, 1x Silver Medal** 2018, 2019
 - ▶ Invitation-only national training camp and competition for pre-collegiate programmers
 - ▶ Placed 4th (2018) and 9th (2019) of 30 contestants selected to attend from a pool of 5000+
- Michael and Ophelia Lazaridis Olympiad Scholarship (approx. \$120,000)** 2019
 - ▶ Recipient of the Olympiad Scholarship, a full scholarship awarded for outstanding academic achievement and programming/math contest performance

PROJECTS

- Academy 118 Webcomic • academy118.com and Webcomic Engine • github.com/AvaLovelace1/webcomic-engine** 2016–Present
 - ▶ Authored and developed academy118.com, a self-published webcomic about science and math
 - ▶ Designed easy-to-use webcomic engine using **PHP**
 - ▶ Supports quick addition of new comics and retrieval of comic attributes such as title and page number
 - ▶ Technical skills used: **HTML, CSS/Sass, PHP, JavaScript/jQuery, Bootstrap**
- Boids—Artificial Life • github.com/AvaLovelace1/boids** 2018
 - ▶ Worked in a team of three to simulate realistic swarm behaviour using vector calculations
 - ▶ Artificial lifeforms (“boids”) flock together, maneuver around obstacles, and avoid predators
 - ▶ Technical skills used: **Java**

EDUCATION

- Bachelor of Mathematics • University of Waterloo, ON** Sep 2019–Apr 2024 (expected)
 - ▶ Computer Science (Co-op) and Combinatorics & Optimization Double Major · 99% faculty average

HOBBIES

- ▶ Competitive programming · Puzzlehunting · Cartooning · Piano · Singing · Music production · Photography