

Mufaro Machaya

mufaro2@student.ubc.ca | [linkedin.com/in/mufarom](https://www.linkedin.com/in/mufarom) | github.com/nickelulz

I'm an undergraduate at the University of British Columbia that intends to major in Computer Science and become a researcher. My primary research interests are **operating systems**, **process calculi**, **networking**, and **computational efficiency**, but I'm open to all kinds of computational research. Thank you!

Technical Skills

Languages: Java, Python, C/C++, JavaScript, HTML/CSS, Common Lisp

Frameworks: React, Node.js, JUnit, Jekyll

Developer Tools: Git, Docker, VS Code, Visual Studio, IntelliJ, Bourne Shell, Bash, Linux, Windows, Android

Libraries: pandas, NumPy, Matplotlib,

Relevant Leadership

President

Cypress, TX

Cy-Fair Computer Science Club

Aug. 2020 – May 2024

- Prepared and led weekly lectures and tutoring to students privately in competitive and advanced placement computer science.
- Planned and lead special conjoined meetings across the entirety of the Computer Science Club, spanning nearly 50 members (one of the largest organizations at Cy-Fair).

Research Intern

Houston, TX

The University of Houston AIS Laboratory

July 2023

- Studied the detection and modeling of gaseous plumes via computer vision methods under Dr. Xiaonan Shan, Dr. Jiefu Chen, and 2 other professors of computer engineering alongside a team of 4 other high schoolers.
- Aided in the development of a Python utility detect smoke plumes from live imaging through an image classifying convolutional neural network with Arduino C++, Raspberry Pi, TensorFlow, and Jupyter.

Projects

UIL CS Written Test Generator | *Apache PDFBox, Java, Maven, Typescript, MongoDB*

- Converts released Computer Science written tests from PDF format to JSON files stored via MongoDB Atlas database that can then be loaded into Google Forms via a Google Apps Script.
- Database contains over 2-thousand tagged problem types for use in club studying.

Work Experience

Tutor

Cypress, TX

Kumon

Nov. 2023 – May 2024

- Tutored children from Kindergarten to Ninth Grade levels in English and Mathematics.
- Assisted in grading and reviewing students' completed worksheets promptly and accurately in alignment with Kumon's grading standards.

Front of House Team Member

Houston, TX

Panera Bread

Aug. 2023 – Sept. 2023

Education

The University of British Columbia

Vancouver, BC

Bachelor of Science

Sept. 2024 – May 2028

- Science One Honors 2025 Cohort

Cy-Fair Senior High School

Cypress, TX

- Graduated Summa Cum Laude with a 3.9/4.0 GPA

Aug. 2014 – May 2018

- 1520 SAT (740 English and 780 Math)
- Co-Founded Aviation Club, Treasurer for Technology Student Association, Math Modeling Captain, Quiz Bowl/Science Olympiad Participant, and a Member of the Speech and Debate Team.