

Mufaro Machaya Curriculum Vitae

CONTACT INFORMATION

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EDUCATION

The University of British Columbia, Vancouver, BC, Canada

August 2025

- Bachelor of Science
- Science One Honors 2024-2025 Cohort

Cy-Fair High School, Cypress, TX, United States

August 2020 to June 2024

- GPA: 6.7/6.0 W, 3.9762/4.0 UW.
- SAT: 1520/1600 (780M, 740R).
- Rank: 65/810.

Advanced Placement Tests:

- * Computer Science A (5/5), 2021-2022
- * Human Geography (5/5), 2021-2022
- * English Language and Composition (4/5), 2022-2023
- * European History (4/5), 2022-2023
- * United States History (4/5), 2022-2023
- * Physics I (4/5), 2022-2023
- * Physics C: Mechanics, 2023-2024
- * Physics C: Electricity and Magnetism, 2023-2024
- * United States Government and Politics, 2023-2024
- * Calculus BC, 2023-2024
- * English Literature and Composition, 2023-2024
- * Macroeconomics, 2023-2024

PROJECTS

GlassHouseTweaks: A Minecraft modification that adds additional features to vanilla Minecraft. Created for additional fun with friends. Total project size of over 3,000 lines of Java source code.

- Technology Used: Java, Maven, JSON

GlassHouseTweaks Bot: Discord bot that was initially designed to handle the tasks of the GlassHouseTweaks plugin and later designed to act as a second frontend interaction for the plugin via web requests. Total project size of over 2,000 lines of TypeScript over 2 repositories.

- Technology Used: Typescript, NPM, JSON

UIL CS Written Test Generator: 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.

- Technology Used: Apache PDFBox, Java, Maven, Google Apps Script, MongoDB

COMPUTER SKILLS

Languages: C, C++, Java, Typescript/Javascript, Python, Bash, \LaTeX .

Operating Systems: Unix, Linux, Windows, Android.

CERTIFI- CATIONS

ANAB Food Handler's Certification (*Exp. July 13, 2025*)

WORK EXPERIENCE

Part-Time Teaching Assistant, 4 hrs/week
Kumon

November 2023 to May 2024
Cypress, TX

- Assisted in grading and reviewing students' completed worksheets promptly and accurately in alignment with Kumon's grading standards.
- Supported students in understanding and correcting errors while providing constructive feedback to enhance their learning experience.
- Maintained organized records of student progress and performance, aiding instructors in tracking individual development and suggesting tailored strategies for improvement.
- Demonstrated strong interpersonal skills by effectively communicating with parents and students, fostering a positive and supportive learning environment.

Team Member, 20 hrs/week
Panera Bread

August 2023 to September 2023
Houston, TX

- Operated cash registers and processed transactions swiftly, overseeing 50 or more orders per shift.
- Demonstrated versatility by occasionally supporting back-of-house tasks such as food packing, dish washing, or restocking inventory during busy periods.
- Contributed to a positive team environment by fostering teamwork, displaying a strong work ethic, and actively engaging in collaborative tasks.

AWARDS

School-Wide

- * Honor Roll (x3). *May 2021, 2022, 2023*
- * Science National Honor Society membership. *January 2023*

Region

- * 1st in Software Development, 1st in Web Design, and 3rd in Audio Podcasting at Brazos Valley TSA regional tournament. *February 2023*
- * 3rd in Software Development, 1st in Web Design, 3rd in Audio Podcasting, and 3rd in Coding at Brazos Valley TSA regional tournament. *February 2024*
- * NSDA First Alternate in Humorous Interpretation. *May 2023*

State

- * TFA State Qualification in Humorous Interpretation (x2). *March 2023, August 2023*
- * TFA State Quarter-Finalist in Humorous Interpretation. *May 2023*
- * Bronze Medal in Web Design (HP6180) at the Texas TSA State tournament. *April 2023*
- * 32/776 on UIL Computer Science Virtual Challenge no. 4. (State-Wide) *2023*
- * 15/222 on UIL Computer Science Virtual Challenge no. 5. (State-Wide) *2023*

National

- * CollegeBoard African American National Recognition. *August 2022*
- * NSDA Degree of Superior Distinction (750+ NSDA Points). *November 2023*
- * Distinguished AP Scholar. *July 2023*
- * University of Texas 2023 Longhorn Classic Speech and Debate Tournament Quarter-Finalist in Humorous Interpretation. *December 2023*

**EXTRA-
CURRICULAR
ACTIVITIES**

President/Team Captain, 5 hrs/week
Cy-Fair Computer Science Club

August 2020 to Present
Cypress, TX

- Promoted from Member to Vice-President/Vice-Captain in May 2022 and from Vice-President/Vice-Captain to Co-President/Co-Captain in May 2023.
- Provide weekly lessons and tutoring to students privately in competitive and advanced placement computer science.
- Arrange lesson plans and meeting agendas for after-school meetings with 20+ members. Grew competition registration rates by over 15 members (about 5 teams) per competition.
- Plan 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).
- Programmed and maintain a Java utility to convert released PDF Written Tests to JSON data that could be loaded into Google Forms for club use. Generated a dataset of over 2-thousand random-selection problems from numerous years.
- Designed advertising materials and coordinated with school administration to distribute promotional messages via posters and overhead announcements.
- Designed 2 generations of club merchandise (vice presidency and presidency respectively) with respect to cost effectiveness. Graphic designs for T-Shirts reduced cost per item to \$13 from over \$20.

Member, 7 hrs/week
Cy-Fair Speech and Debate

August 2021 to Present
Cypress, TX

- Prepare for and compete in weekly speech tournaments as a competitor in Humorous Interpretation, Prose Interpretation, and Impromptu Speaking.
- Reached NSDA Degree of Superior Distinction.
- Quarterfinalist in Humorous Interp. at the 2023 TFA State Tournament, against 92 other competitors (i.e. made the top 24 for HI in the state).
- Quarterfinalist in Humorous Interp. at the 2023 University of Texas Longhorn Classic National Tournament, against 63 other competitors.
- 2x TFA State Qualifier for TFA 2022 and TFA 2023.
- Competed at the Harvard National Speech and Debate Tournament.
- Attended *Always Writing 4 U* speech camp run by Mrs. Kristy Thomas on a full scholarship. (\$600+ USD, funded by Cy-Fair Speech and Debate)

Research Intern, 2 hrs/week
University of Houston AIS Laboratory

July 2023 to Present
Houston, TX

- 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.
- Participated in biweekly virtual conferences discussing the progress of the research, coordinating with all team members and advisors each time to understand new methods of study to make further progress.
- Developed a Python utility to automatically run smoke plume detection experiment with Arduino C++, Raspberry Pi, and TensorFlow. Over 300 lines of code written, and project contribution was reviewed for team-wide analysis.
- Research is actively in-progress, no publication yet.

Co-Founder and President , 2 hrs/week <i>Cy-Fair Aviation Club</i>	December 2023 to May 2023 Cypress, TX
<ul style="list-style-type: none"> • Founded the club by coordinating with school administration to install flight simulation software and set up official club financial accounts. • Coordinated with another co-founder to create numerous club logical plans and documents, such as the constitution, organization registration, financial plan, and more. • Designed numerous merchandise and advertising materials for the club through Canva. • Led the club by providing numerous lectures on Aviation topics, growing the club to over 15 consistent members. 	
Team Captain , 1 hrs/week <i>Cy-Fair Math Modeling Team</i>	August 2022 to Present Cypress, TX
<ul style="list-style-type: none"> • Promoted to Team Captain in May 2023. • Run practice meetings, give presentations and coordinate a team of 5 competitors to prepare for and compete in national data science competitions using machine learning techniques with Python. • Organized competition registration and meeting logistics, allowing for successful competition in the 2022 Math Modeling competition. 	
Treasurer , 5 hrs/week <i>Cy-Fair Technology Student Association</i>	September 2022 to Present Cypress, TX
<ul style="list-style-type: none"> • Promoted to Treasurer in May 2023. • Proposed and oversaw the creation of fundraising opportunities for the club. 	
Member , 1 hrs/week <i>Cy-Fair Quiz Bowl</i>	September 2023 to Present Cypress, TX
Competitor , 2 hrs/week <i>Cy-Fair Science Olympiad</i>	August 2021 to May 2022 Cypress, TX