

Harrison Chui

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EDUCATION

Carnegie Mellon University

Bachelor of Science in Computer Science, GPA: 4.00/4.00

Pittsburgh, PA

Expected Graduation: May 2025

Upper Saint Clair High School

Valedictorian, GPA: 5.00/5.00

Pittsburgh, PA

June 2021

Relevant Coursework: Mathematical Foundations for Computer Science, Principles of Imperative Computation, Matrices and Linear Algebra, AP Computer Science A

SKILLS

Languages: Python, C, C++, R, Java, JavaScript, HTML/CSS

Frameworks/Tools: Vue, React, Gatsby, Django, GraphQL, Nginx, Apache, Unix, Git, LaTeX

EXPERIENCE

Chan Research Lab - University of Pittsburgh Medical Center

Pittsburgh, PA

Bioinformatician

June 2019 - July 2021

- Identified 189 computationally predicted novel drug combination therapies for pulmonary hypertension by representing and analysing networks of genes in Python
- Leveraged whole-genome sequencing data using R to predict mutations that cause pulmonary hypertension
- Analysed 28.6 million single nucleotide mutations in Python and classified each to aid future studies
- Created a machine learning model in Python to improve previous genomic and transcriptomic networks

Upper Saint Clair School District

Pittsburgh, PA

Full Stack Developer

July 2018 - August 2021

- Developed and implemented the Upper Saint Clair HS Course Selection [Website](#), allowing the entire student body of 1500+ students to view and choose classes every year
- Programmed an accessible database using Django for teachers to easily update and edit class information
- Partnered with a team of 4 student developers to launch the USC computer cart reservation system using a reactive Vue frontend

ACTIVITIES

CMU Business Technology Group, Software Development Team

September 2021 - Present

- Revamped the CMU BTG website using React and Gatsby, creating a more user-friendly interface
- Incorporated Netlify CMS, allowing members to log in to the CMU BTG website and upload a portfolio of themselves for use in internship and job applications

Carnegie Mellon Rocket Command, Avionics Team

September 2021 - Present

- Created a computer vision model to use on the Raspberry Pi in conjunction with a camera to allow the rocket to detect trees and bodies of water to avoid during landing
- Programmed onboard Raspberry Pi using Python to monitor avionics and control trajectory with servos

VOLUNTEERING

Tennis Outreach Fun Day, Pittsburgh, PA

July 2017 - August 2021

- Founded and coached a tennis outreach program for inner-city children to promote access to the sport
- Developed a clinical program and recruited high school students as instructors
- Collected and refurbished 200+ used racquets and raised \$800 through corporate and public donations

Global Dental Relief, San Martin, Guatemala

August 2018 - August 2020

- Served over 1500 Guatemalan children by assisting dentists in filling cavities and performing extractions
- Lead small group sessions in Spanish to teach children about oral hygiene
- Oversaw the sterilization of all instruments used in procedures

HONORS/AWARDS

PPG Foundation National Merit Scholarship

August 2021

National AP Scholar

September 2021

US Dept. of Education Presidential Scholar

January 2021

SIAM Mathworks Math Modeling Competition Honorable Mention (Top 12 of 867)

February 2020 & February 2021

National Merit Finalist

February 2021