David Chang

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EDUCATION

University of Washington, Seattle *Sept 2018 – Jun 2022*

BS in Computer Science, minor in Mathematics; GPA: 3.73/4.0 (Dean's List)

Related Coursework: Data Structures and Algorithms (CSE332), Software Design and Implementation (CSE331), Web Development (CSE331 and INFO101), Matrix Algebra with Applications (MATH308)

Anticipated Courses: *Winter 2021:* Artificial Intelligence (CSE473), Machine Learning (CSE446)
Spring 2021: Natural Language Processing (CSE447), Computer Vision (CSE455)

SKILLS

Programming Languages: Java, Python, Numpy, C, C++, Matlab, HTML, CSS, Javascript
Experience with: React, Gatsby.js, Spark Java, JUnit, Git, LaTeX, Netlify
Labs: Soldering

EXPERIENCE

Mobile Application Development Project - Fitness App
Self-employed *Jun 2020 – Present*

- Built a powerlifting training log app for Android and iOS using React Native and Spark Java
- Designed a seamless UX/UI that allows users to create their own training programs by implementing client-server and event-driven programming
- Uses model-view-controller to program front-end and back-end designs that interact with a database
- Beta-tested with 4 people and allows users to save their training programs
- Next: enabling users to share their programs with each other

Image Processing Research – Seattle, Washington
Undergraduate researcher mentored by Professor Liguo Wang *Jan 2019 – Jun 2019*

- Used image processing to determine the 3-dimensional structures of membrane proteins
- Preprocessed and filtered images of vesicle data from a cryo-electron microscopy file format using Matlab
- Reconstructed the 3-dimensional structure of proteins from multiple 2-dimensional images by removing the lipid vesicles of varying sizes, allowing protein images to be investigated in any functional state
- Developed productive teamwork strategies that reduced overtime by 2hr/week by establishing concrete objectives and responsibilities
- Rewrote 36 programs from Matlab to Python, improving the code's understandability and reusability

NASA Student Launch – Irvine, CA
Payload Manager *Jun 2016 – April 2018*

- Implemented the autonomous air brakes and recovery systems of a recoverable and reusable rocket, resulting in consistent safe flights of over 1000 feet in altitude
- Placed fifth at the American Rocketry Challenge Nationals, out of the top 101 teams in America; Qualified to compete in NASA Student Launch (top 25 teams in the nation)
- Designed and built a CO2 sensor electronic control board payload using Arduino that accurately read the CO2 levels in the atmosphere of over 1000 feet in altitude of the rocket's ascent
- Collaborated with a team of 6 to write and present the statement of work and 4 design reports every 2 months; created an environment of productivity through careful planning which reduced overtime by 3hr/week
- Won best website award out of 18 teams in the high school division

ACTIVITIES

University of Washington EcoReps – Seattle, Washington
member *Jan 2019 – Present*

- Collaborated with team members to organize the Green Husky Market event to support local producers and sustainable food practices