

Daniel Cabrera

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EDUCATION

University of California, Irvine

Graduation: June 2022

B.S. Software Engineering • GPA: 3.812

SKILLS

Languages: Python, C/C++/C#, Java, JavaScript, TypeScript, HTML/CSS, Bash, SQL

Libraries/Frameworks: Unity, React.js, Node.js, MUI, OpenEye, AmberTools, Virtual Reality Toolkit, Matplotlib

Tools: Git, Unix/Linux, Vim, Visual Studio, Slurm, tmux

EXPERIENCE

Hughes Media and Design Lab UCI • <https://hughesmedia.bio.uci.edu/patient-zero/>

March 2021 - Present

Game Developer

- Developed Patient Zero, a student led research project of over forty students developing a Virtual Reality game for biology students to learn concepts in a fun and interactive way
- Coordinated and collaborated with seven other departments, including Audio, Art, Writing, etc. on over 50% of Patient Zero production as a member of the Programming and Game Design teams

Mobley Lab UCI • <https://mobleylab.org/>

June 2020 - Present

Undergraduate Researcher

- Researched computer science techniques to improve molecular dynamic simulations and pharmaceutical drugs through advances in force fields and machine learning to more accurately predict biological processes

Adventure Biofeedback • <https://www.adventurebiofeedback.com/>

September 2021 - March 2022

Web Developer

- Designed and developed a full stack web application complete with a user profile, patient dashboard, and homework builder for speech language pathologists to enhance therapy for patients
- Impacted 300+ patients and 150+ speech language pathologists while being the first website of its kind

PROJECTS

Wiberg Bond Order Interpolation

October 2021 - Present

Mobley Lab

- Analyzed Wiberg bond order calculations for sets of millions of molecules to explore differences in calculation between two molecule conformer toolkits, AmberTools and OpenEye

Search Engine

January 2021 - March 2021

UCI Informatics

- Developed a web scraper and search engine capable of handling tens of thousands of documents or web pages under harsh operational constraints while maintaining a query response time under 300 ms

DANCE

June 2020 - October 2021

Mobley Lab

- Developed customizable fingerprint functions to filter commercial molecules databases of millions of molecules and tag them with unique data
- Improved parameterization of force fields by allowing scientists to filter for specific molecular substructures while being the first project of its kind

COMMUNITY SERVICE

Fullerton Free Hoopstars • <https://fullertonfree.com/ministries/specialneeds/>

March 2022 - Present

- Volunteered weekly to produce games for Hoopstars, a special needs basketball program at Fullerton Free

AWARDS

Dean's Honor List Last 9 Quarters • Undergraduate Research Opportunity Program Grant Recipient 2021 - 2022