

Madison Sparks

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INTRODUCTION

Highly motivated and eager-to-learn University of California - Davis Honors Program student (June 2024) with a degree in Quantitative Biology seeking entry level bioinformatics employment opportunity. Highly organized student who adapts to the unexpected, thrives in group settings and develops interpersonal connections with peers, co-workers and mentors alike. With a knowledge base in biology ranging from genomics to microbiology as well as computational experience in Python and R, graduate provides a multifaceted toolbox and thirst for knowledge that is ready to be unleashed. Seeking a suitable position to contribute skills to biological research and analysis.

EDUCATION

University of California, Davis - Honors Program	2020-2024
Major: Quantitative Biology, Bachelor of Science Degree	GPA: 3.6
Study Abroad: University College London	2022-2023
Study: Biological Sciences	GPA: 3.6
Half Moon Bay High School	2016-2020
Half Moon Bay, CA	GPA: 4.0 (Weighted: 4.5)
Concurrent Enrollment: Skyline College (7 credits)	GPA: 4.0

RELEVANT COURSEWORK

Advanced statistics and Machine Learning for Biosciences, Advanced Computational Biology, Advanced Human Genetics, Genomics, Linear Algebra and Differential Equations with Applications to Biology, Programming(Python, JupyterLab, R Studio, MATLAB, C, C++), Genome Hunters(research project)

Honors seminars: Theory of Relativity, Ethics and the Contemporary Health Sciences, Entropy and Sustainability

Graduate courses at University College London: Advanced Computational Biology, Advanced Human Genetics

SKILLS

Laboratory techniques:

Pipetting, polymerase chain reaction(PCR), gel loading, electrophoresis

Computational skills:

Statistical modeling in MATLAB, statistical analysis in R, programming in Python, supervised and unsupervised machine learning in Python

Planning and organization:

Identify and organize tasks and information, set up and keep time schedules, adjust for the unexpected, manage multiple tasks at once

Interpersonal relations:

Convey a sense of humor, encourage inclusion,

communicate well with diverse groups

Verbal communication:

Present ideas effectively to audiences, groups or via electronic media, communicate to groups with ranging levels of specialization

Language: English, proficient in Spanish

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HONORS AND AWARDS

- UCLA Mock Trial Competition- 2nd Place
- Stanford University-Women in STEM Summer Program

EXPERIENCE

Senior Thesis, Modeling Diseases in Model Organisms, UC Davis 2024

- Conducted literature reviews on genetic diseases in humans studied in model organisms, specifically zebrafish
- Analyzed ontology databases to establish consensus phenotype and symptom ontology between species

Research Project, Genome Hunters, UC Davis 2021-2022

- Collected, isolated and identified halophiles from environmental samples via lab experimentation and sequence analysis
- Experimented on samples via controlled growing conditions, data collection, analysis and model generation
- Analyzed sequence data of collected halophiles through sequence assembly, alignment and annotation
- Preparation for publishing of results via collaborated manuscript of the experiment, results and sequence data
- Discovered new, unclassified halophile

Sales Associate, Bath and Body Works, Rehoboth, DE Summer 2021

VOLUNTEER WORK

Volunteer, Habitat for Humanity, Salisbury, MD Summer 2022

- Coordinated with others to construct new housing for low income families in need

Tutor for Advancement Via Individual Determination Program, Half Moon Bay High School 2018-2020

- Created positive and focused environment for disadvantaged high school students
- Conveyed ideas in a variety of media to teach students difficult concepts

ACTIVITIES AND INTERESTS

- UC Davis Country Line Dancing Club
- Hiking in national parks
- Linguistics
- World travel
- Cultural anthropology
- Exploring other worlds through literature
- Strategic board games
- Special needs advocate