Gavin Coladonato

gavin.cola@gmail.com | LinkedIn | GitHub

Education

University of California, Santa Cruz Sep. 2021 – Jun. 2025

Bachelor's of Science in Biomolecular Engineering and Bioinformatics

- **Relevant coursework:** Applied Machine Learning, Research Programming in Life Sciences, Bioinformatics Models and Algorithms, Computational Genomics, Data Structures and Algorithms, Python Programming, Probability and Statistical Inference, Database Management Systems, Genetics and Genomics, Cell and Molecular Biology.
- **Grade Point Average:** 3.6

Experience

Undergraduate Research Intern Jun. 2024 – Aug. 2024

Stanford Medicine, Radiological Sciences Laboratory *Stanford, CA*

- Designed and implemented a novel machine learning approach for reconstructing high-resolution neural shape models from Diffusion Tensor MRI scans, enhancing anatomical fidelity.
- Built an end-to-end preprocessing and modeling pipeline in PyTorch and NumPy, including segmentation and normalization.
- Worked independently in collaboration with a Stanford Medicine postdoctoral researcher to deliver reproducible, production-ready code.

Student Outreach Program Coordinator Sep. 2022 – Jun. 2023

UCSC Engaging Education *Santa Cruz, CA*

- Coordinated outreach to Bay Area minority students by organizing campus tours, guest speaker events, and informational sessions highlighting college opportunities.
- Led guided campus tours and presented university resources and support services to prospective students and families.
- Managed event logistics and conducted direct phone outreach to engage participants and answer questions.

Research

Deep Learning Research Assistant Jun. 2023 – Dec. 2023

Neuromorphic Computing Group

- Created a Python tutorial notebook introducing Spiking Neural Networks (SNNs) and demonstrating their benefits for reducing model storage and energy usage.
- Collaborated with researchers developing open-source tools for SNN model conversion and optimization in PyTorch.

Projects

Computational Analysis of Polycythemia Vera Driver Mutation Mar. 2024 – Mar. 2025

Independent project and course research

- Developed a computational pipeline to confirm JAK2 V617F as the primary driver mutation in Polycythemia Vera, integrating gene expression analysis, pathway enrichment, and machine learning classification.
- Conducted differential gene expression and network modeling using publicly available genomic datasets (GEO, TCGA, COSMIC).

Leadership & Service

Eagle Scout (Highest Rank) Awarded Nov. 2020

Scouts BSA *Mountain View, CA*

- Designed and led a COVID-19 relief project supporting the Stanford Medicine Van, a mobile medical unit providing free healthcare to uninsured students across the SF Bay Area.
- Coordinated a food and school-supply drive in the local community, organizing over 100 volunteer hours.
- Collected and distributed 100 backpacks with school supplies, 100 meal bags, 120 blankets, and 50+ gift cards for families in need.

Skills

- Python (5+ yrs), PyTorch, NumPy, Pandas, scikit-learn
- Bash (2+ yrs), Git, Jupyter Notebooks, Linux
- Machine Learning, Bioinformatics Analysis
- Strong written and verbal communication