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Education

- **University of California, Santa Cruz - GPA: 3.62** — **Sep 2022 - Jun. 2026**
  - Bachelor's of Science in Computer Science - *Declare*
  - Double Major in Applied Mathematics - *Pursuing*
- **De Anza College - GPA: 4.00** — **Jun. 2023 - Jun. 2026**
- **Las Positas College - GPA: 4.00** — **Jun. 2023 - Jun. 2026**

Relevant Coursework (All on CV)

Machine Learning and Data Mining *(UCSC - CSE 142)* • Data Structures and Algorithms *(UCSC - CSE 101)* • Analysis of Algorithms (UCSC - CSE 102)
Principles of Computer Systems Design (UCSC - CSE 130) • Research Explorations *(UCSC - CMPM 15)* • Computer Systems and C Programming *(UCSC - CSE 13s)*
Classical and Bayesian Inference (UCSC - Stats 132) • Intro to Software Engineering (UCSC - CSE 115a) • Linear Algebra *(UCSC - Math 21)*
Theory and Practice of Peer-Guided Learning for Tutors and Learning Assistants *(UCSC - Stev 96)* • Programming Abstractions: Python *(UCSC - CSE 30)*

Learning Support Services Tutor — Sep. 2023 - Present

- **LSS Large Group Tutor for Discrete Math** — **Sep. 2023 - Dec. 2023**
  - Facilitating and engaging large groups of 10-20 students through collaborative and individual activities each tutoring session. Providing individualized, equitable tutoring and conceptual help for my smaller 2-5-person sessions. Tailoring critical, specialized lesson plans during these smaller sessions paired with constructive, student-centered feedback ensures each student excels in thorough class understanding and uplifts all who attend.
  - Preparing and hosting three one-hour weekly engaging sessions and three-hour long Midterm and Final review sessions, attracting up to 90 people.
  - Communicating punctually and concisely; effectively conveying thoughts verbally, visually, and interactively to a diverse range of listeners while perceiving and catering to individual student needs.
  - Maintaining an efficient and well-organized schedule by actively collaborating with my co-tutor to plan and host joint sessions, attending weekly meetings with my mentor and supervisors, and ensuring timely communication through Slack and email. Consistently incorporating mentor feedback to improve every new session.
  - Utilizing retained knowledge from own experience taking Discrete Math to help others through places I know are demanding.

Research

- **Protein Synthesis Modeling - Razvan Marinescu Molecular Dynamics Machine Learning Lab |** *Undergraduate Researcher* — **Dec. 2023 - Present**
  - Assisting in research under the supervision of a professor and their Ph.D. students, where technical skills in Bayesian Statistics, Machine Learning, Discrete Mathematics, Python, and data visualization with libraries such as NumPy, SQL, and Pandas are being applied.
  - Actively working with peers during 3-hour meetings twice a week and more individually to apply a Neural ML model to speed up the process of simulating protein self-assembly in viruses with the goal of a human brain cell simulation for medical applications. Familiarity working with tools such as Bizon and data visualization software.
- **Computer Vision Video Recognition - Eric Wang Research Lab |** *Undergraduate Researcher and Data Scientist* — **Jan. 2024 - Present**
  - Creating and training a machine learning model to recognize the features of a video by gathering data on dozens of videos, drafting reasoning, counterfactual, future prediction, and domain-specific inquiries to create a tool comparable to Google's Bard in terms of video recognition capabilities.
  - Tasked with developing a model with equally efficient output given resource constraints.

Projects

- **Deep Learning Library from Scratch |** *Python, NumPy, Pandas, MatPlotLib* — **Jan 2024 - Present**
  - Combining skills cultivated from clubs, research, coursework, and independent research to create a Machine Learning library from scratch in Python. Utilizing libraries such as NumPy and Pandas to implement various Supervised and Unsupervised models and concepts such as Linear Regression, Logistic Regression, Recurrent Neural Networks, and Clustering with K-means only using math.
  - Created a graphing library as an extension of MatPlotLib to efficiently create detailed plots of datasets.
- **Generative Language Model |** *Python, NumPy, Pandas* — **Jun 2024**
  - Developed an n-gram corpus perplexity monitor capable of learning speech patterns and predicting text likelihood, used to construct a statistical analysis-based predictive text completer.
  - Implemented various next-word selection methods, including k-random sampling, temperature scaling, and greedy word prediction.
- **Penny Stock Forecasting Webapp with LSTM Models |** *PyTorch, SQL, TensorFlow/Keras, HTML/CSS/JS, Flask, Polygon.ioAPI, MatpPlotlib* — **Jul 2024**
  - Developed a web app using MySQL, Flask, and deep learning frameworks (TensorFlow/Keras, PyTorch) to predict penny stock prices, utilizing an LSTM model with a prediction loss of <0.004 and integrating real-time stock data from Polygon.io.
  - Created an interactive frontend with HTML/JavaScript to display stock forecasts and optimal buy/sell times based on a specified horizon, enabling user interaction and communication with the backend model.

Technical Proficiencies

- **Programming Languages / Libraries**
  - Proficient in Python, C, C++, NumPy/Pandas, PyTorch, TensorFlow, SNN Torch, SKLearn, RISC V Asm, SQL, HTML/CSS/JS
- **Developer Tools / Technologies**
  - VSCode, PyCharm, Google Workspace, GitHub, Linux, Ubuntu, Virtualbox, Parallels
- **Languages**
  - Speak/Read/Write English and Spanish, studying Japanese

Leadership / Student Involvement

- **Sky Is No Limit ML from Scratch | Python, NumPy, Pandas** — **Jan 2024 - Present**
  - Engage in weekly workshops, study sessions, community outreach, informational lectures, hackathons, and group projects with peers and mentors who share a passion for everything related to Machine Learning and Artificial Intelligence.
- **Google Student Developer Club UCSC | Club Member** — **Sep 2022 - Present**
  - Attend weekly meetings and workshops to learn about various fields of Computer Science, prepare for technical interviews and life in the industry, and connect with peers to make friends and help uplift one another.