Caleb Traxler

(805) 377-8182 | calebtraxler34@gmail.com | https://www.linkedin.com/in/calebtraxler | https://calebtraxler.streamlit.app/

Education

University of California Irvine (UCI) Irvine, CA
M.S., Data Science September 2024 - Exp. December 2025
Concentrations in Machine Learning, Computer Vision and Artificial Intelligence. UCI Master of Data Science Scholarship Recipient. Accelerated Masters in Data Science Program (~15 months).

University of California Los Angeles (UCLA) Los Angeles, CA
B.S., Mathematics and Computer Science, GPA: 3.81/4.00 September 2022 - June 2024
Joint Degree with Concentrations in Applied Mathematics and Computer Science.

Moorpark College Moorpark, CA
A.S., Mathematics, Physics and Computer Science, GPA: 4.00/4.00 August 2020 - June 2022

Relevant Experience

Data Science and ML Engineer at Amgen Thousand Oaks, CA
Data Science and ML Internship June 2024 - September 2024

- Joined the Technology and Innovation Lab at Amgen for a 10-week data science and machine learning role, focused on accelerating research and development using machine learning, AI and digital technologies.
- Used python to build a rare disease prioritization model able to automate a rare disease scoring process with generative artificial intelligence, yielding an accuracy of 96%. Accelerated a year-long scoring process into a few days.

AI-Safety Fellowship at UCLA Los Angeles, CA
Computer Vision Specialist January 2024 - March 2024

- Worked alongside fellow machine learning students at UCLA and gained insights about AI existential risks and the impacts of AI advancements on humanity's future.
- Developed practical stills in ML, including neural networks by using tools like PyTorch and micrograd.
- Explored AI safety and alignment challenges, contributing to understanding and mitigating potential failure modes in AI systems.

Modeling COVID-19 Undergraduate Research at UCLA Los Angeles, CA
Undergraduate Mathematics Researcher March 2023 - June 2023

- Led a COVID-19 research project at UCLA Mathematics Department in Junior year, under Professor Shiba Biswals supervision.
- Analyzed Orange County COVID-19 data using Jupyter notebooks and python; focused on data processing and in-depth analysis in python. Implemented error analysis methods using Matlab, enhancing accuracy.
- Utilized SIR and SEIR differential equations and nonlinear equations to develop an innovative bifurcation diagram, hence identifying a critical transcritical bifurcation threshold used for predictions.

Community College Aerospace Scholars Internship at NASA Remote
Engineering and Design Internship February 2022 - August 2022

- Collaborated in a NASA mission capstone project, addressing complications with today's Mars rovers.
- Designed a modern Mars rover blueprint; the project served as an introduction to machine learning and AI systems. I was further able to build this project's hardware and software as a personal project.
- Improved NASA's Mars rover functionality and adaptability with this design.

Personal Projects

Numerical Image Recognition September 2023 - December 2023

- Developed a two-layer convolutional neural network for precise number classification in images, resulting in 94% accuracy.
- Enhanced model performance through strategic hyperparameter tuning, focusing on learning rate and regularization.

Image Degradation and Restoration September 2023 - December 2023

- Constructed a MATLAB project on image degradation and restoration; added sinusoidal noise to an image and improved it using Fourier transform analysis.
- Implemented an embedded notch filter to successfully eliminate noise frequencies from the fourier spectrum, hence restoring the image to near-original quality after transforming the image back to the frequency domain.