Timothy Ng

(xxx) xxx-xxxx
timothy.ng681@gmail.com

[Personal Website](#)
[LinkedIn](#)
[GitHub](#)

EDUCATION

University of California, Irvine *September 2024 - December 2025*
Master of Data Science GPA: 3.95/4.00

University of California, Davis *September 2021 - June 2023*
Bachelor of Science, Mathematics Dean's List, GPA: 4.00/4.00

RESEARCH

Kapil Garg*, **Timothy Ng***, Anne Marie Piper, and Erik B. Sudderth. Paper on technique for reducing vision-language model hallucination for BLV people. *Under review.* ***equal contribution.** *July 2025 - Present*

EXPERIENCE

Trilemma Foundation *September 2025 - Present*
Data Science Intern
- ❖ Managing a team of 6 students to create an open source pipeline to convert soccer match event data into metrics and heatmaps, served as a **Streamlit** dashboard.
- ❖ Explored Gaussian Process change point detection to automatically find impactful events in soccer matches.

Multi-Scale Urban Temperature Analysis *July - September 2025*
Graduate Research Assistant
- ❖ Worked with Dr. Jun Wu to study long term effects of urbanization on land surface temperatures.
- ❖ Found a smaller heating effect in urban tracts of Los Angeles County compared to neighboring rural tracts.

ADA Forsyth Institute *May 2022 - May 2025*
Process Development Engineer Intern
- ❖ Developed pipelines for converting 3D object inputs into 3D printing instructions, optimizing support for custom dental aligner models with stress reinforcement features.
- ❖ Developed multiple apps in **MATLAB** for automatic data analysis from a multi-device laboratory setup using computer vision and image processing.
- ❖ Ported original MATLAB code base to **Python**, manually profiling code to identify bottlenecks, and accelerated a high-frequency routine (over 50% of total runtime) using **Numba**'s just-in-time compilation. Optimized performance with **Numpy**, **asyncio**, and threading, and built GUIs with **Tkinter**.

PROJECTS

Latent Dirichlet Allocation of the BBC News Archive *May - June 2025*
- ❖ Replicated the work of Blei, Ng, and Jordan in creating a mixed topic model to learn news article topics with variational Bayesian inference over a latent Dirichlet distribution on the words and categories.
- ❖ Leveraged **Pandas**, **Scipy**, **Numpy**, and the **Natural Language Toolkit** to minimize the KL-divergence of the variational distribution relative to the true conditional distribution.
- ❖ Performed model selection by finding the minimum perplexity on a held-out test set, and compared our custom model to the **scikit-learn** Latent Dirichlet Allocation implementation.

AI vs Human Generated Image Classification *February - March 2025*
- ❖ Wrote an image processor to efficiently convert image data into standardized inputs for neural networks and unsupervised learning tasks. Used **PyTorch** transforms in **asyncio** event loops.
- ❖ Used unsupervised learning techniques (Bernoulli Restricted Boltzmann Machine) in combination with random forest classifiers to achieve 73% validation accuracy in classification.
- ❖ Worked with group members to achieve 89% validation accuracy with a custom Convolutional Neural Network and 86% with a modified ResNet50 model, pretrained on the ImageNet dataset.