Tejasvi Kothapalli

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Education

Aug 2023 – Present

University of California, Berkeley – Vision Science Ph.D.
Area: Computational Neuroscience & NeuroAI
Advisor: Jacob Yates
Course Work: **VS 260A**: Optical and Neural Limits to Vision, **VS 260C**: Visual Neuroscience, **VS 260D**: Seeing in Time, Space and Color, **VS 265**: Neural Computation

Aug 2018 – May 2022

University of California, Berkeley – Electrical Engineering & Computer Science B.S.
Cumulative GPA: 3.746
Upper Division Technical GPA: 3.916
Upper Division Coursework: **Math 110**: Linear Algebra, **EE 120**: Signals and Systems, **EE 126**: Probability and Random Processes, **EE 127**: Optimization Models in Engineering, **CS 100**: Principles & Techniques of Data Science, **CS 161**: Computer Security, **CS 170**: Efficient Algorithms and Intractable Problems, **CS 182**: Designing, Visualizing and Understanding Deep Neural Networks, **CS 188**: Introduction to Artificial Intelligence, **CS 189**: Introduction to Machine Learning, **CS 194-26**: Intro to Computer Vision and Computational Photography, **CS 194-80**: Full Stack Deep Learning, **CS 280**: Computer Vision, **CS 285**: Deep Reinforcement Learning, **CS 288**: Natural Language Processing
Research: Worked with Professor **Stella Yu**, Professor **Meng Lin**, Professor Yubei Chen, Postdoc Peter Wang. Senior Honors Thesis: **Studying Dry Eye Syndrome with Machine Learning**.

Experience

Aug 2023 - Present

Graduate Student Researcher in *The Active Vision and Neural Computation Lab*
Researching Natural Vision in Primates and its applications to Computer Vision.

Jun 2020 - May 2023

Researcher at ICSI (International Computer Science Institute)
The Effects of Whitening in Neural Networks: We modified Batch Normalization to decorrelate the feature map. We found whitening to improve ResNet training on CIFAR-100 by over 2 percent. Collaborated with Professor Yu, Yubei Chen, and Peter Wang.
Meibography Artifical Intelligence: Used computer vision and classical machine learning techniques to predict eye diseases. Collaborated with Professor Yu, Professor Lin, and Peter Wang.

Aug 2021 - May 2023

Student Research Assistant at CRC (Clinical Research Center)
EasyTear Lipid Layer Analysis: Using computer vision techniques on videos of eye to determine lipid layer motion and thickness. Collaborated with Professor Lin, Professor Yu, Peter Wang.

Aug 2022 - Dec 2022

Machine Learning Engineer at Aizip
Startup in the tinyML space where ML models are deployed to IoT devices. Worked on people detection and fall detection.

May 2017 - Aug 2017

NASA Ames Research Center Intern
Worked in the Tensegrity Robot Division. Contributed to an open source web based tensegrity robot simulator. Used machine learning evolutionary algorithm to locomote twelve-rod tensegrity structures in simulation.

Publications

1 **Artificial Intelligence Models Utilize Lifestyle Factors to Predict Dry Eye-Related Outcomes**
Andrew Graham, Jiayun Wang, **Tejasvi Kothapalli**, Jennifer Ding, Helen Tasho, Alisa Molina, Vivien Tse, Sarah M. Chang, Stella X. Yu, Meng C. Lin. *Nature Scientific Reports, 2025*

2 **A Machine Learning Approach to Predicting Dry Eye-Related Signs, Symptoms and Diagnoses from Meibography Images**
Andrew Graham, **Tejasvi Kothapalli**, Jiayun Wang, Jennifer Ding, Vivien Tse, Penny A. Asbell, Stella X. Yu, Meng Lin. *Heliyon, 2024*

3 **Tracking the Dynamics of the Tear Film Lipid Layer**
Tejasvi Kothapalli, Charlie Shou, Peter Wang, Tatyana Svitova, Andrew Graham, Meng Lin, Stella Yu. *Workshop at Neural Information Processing Systems (Neurips): Medical Imaging*, 2022

4 **Saving Energy in Homes Using Wi-Fi Device Usage Patterns**
Tejasvi Kothapalli. *International Journal of Energy Optimization and Engineering (IJEOE)*, 2018

5 **Controlling Tensegrity Robots through Evolution using Friction based Actuation**
Tejasvi Kothapalli, Adrian Agogino. *NASA Technical Reports*, 2017

Honors

Aug 2023 - May 2025 **CIVO Fellowship**
Generously funded for graduate studies to conduct research which promotes innovative display, graphics, and optical technology for the healthy and diseased eye.

Aug 2021 - May 2022 **EECS Honors Program**
Recognizes EECS students who commit to research, strong academics, and writing a senior thesis.

Teaching & Services

Aug 2023 - September 2024 **Program Committee Chair, Bay Area Vision Research Day (BAVRD)**
Help plan, fundraise, and invite speakers and abstract presenters.

Aug 2023 - Present **CIVO BASIS Coordinator**
I help organize and teach about general Vision Science to 4th graders around the East Bay. We work with the organization Bay Area Scientists Inspiring Students (BASIS).

May 2022 - Present **Teacher at Inspirit AI**
Teaching machine learning to high students at Khan Lab School, Bellarmine College Preparatory, Evergreen Valley High School, and Bentley School.

Talks

April 2025 **Redwood Meeting:** Predicting V1 Recordings with Sparse Coding

December 2024 **CIVO Day:** High-accuracy retinal input tracking in free-viewing primates

References

1 **Jacob Yates**, yates@berkeley.edu
Professor, Herbert Wertheim School of Vision Science and Optometry, UC Berkeley

2 **Bruno Olshausen**, baolshausen@berkeley.edu
Professor, Neuroscience and Herbert Wertheim School of Optometry & Vision Science, UC Berkeley
Director, Redwood Center for Theoretical Neuroscience

3 **Peter Wang**, peterwg@berkeley.edu
Postdoctral Scholar, California Institute of Technology