# Tejasvi Kothapalli

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## Education

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:*** I have had the pleasure of working with Professor **Stella Yu**, Professor **Meng Lin**, Postdoc Researcher Yubei Chen, and PhD candidate Peter Wang on various machine learning projects. I completed my Senior Honors Thesis: **Studying Dry Eye Syndrome with Machine Learning**.

## Experience

June 2020 - Present

**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 - Present

**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.
***Tear Aqueous Production Rate:*** Built clinical tool to help compute tear aqueous production rate. Collaborated with Professor Lin.

Aug 2022 - Present

**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 2022 - Present

**Teacher at Inspirit AI**
I have taught the Inpsirit AI Scholars curriculum to high students in-person at Khan Lab School, Bellarmine College Preparatory, and Bentley School. The curriculum teaches basic machine learning and AI concepts to students.

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 **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 meets NeurIPS*, 2022

2 (Preprint) **A Machine Learning Approach to Prediciting Dry-Eye Related Signs, Symptoms and Diagnoses**
**Tejasvi Kothapalli**, Peter Wang, Andrew Graham, Meng Lin, Stella Yu
*Plan to submit the journal of the American Academy of Ophthalmology (Ophthalmology)*

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

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

## Honors

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

## References

1 **Stella Yu**, stellayu@berkeley.edu
Professor, Electrical Engineering and Computer Sciences, University of Michigan, Ann Arbor
Adjunct Professor, Electrical Engineering and Computer Sciences, UC Berkeley
Director, ICSI Vision Group

2 **Meng Lin**, mlin@berkeley.edu
Professor, Herbert Wertheim School of Optometry, UC Berkeley
Director, Clinical Research Center

3 **Andrew Graham**, agraham@berkeley.edu
Senior Biostatistician, Clinical Research Center

4 **Yubei Chen**, yubeic@fb.com
Research Scientist, Fundamental AI Research, Meta

5 **Peter Wang**, peterwg@berkeley.edu
PhD Candidate, Vision Science at UC Berkeley