

# Harshil Kotamreddy

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## Education

### University of Alberta

*M.Sc. Computing Science*

Expected May 2025

### California State University, Los Angeles

*B.S. Computer Science, Mathematics*

GPA: 3.98/4.0

May 2023

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## Research Experience

### Graduate Research Assistant – Dr. Marlos C. Machado

Working on applying eigenoptions for exploration and credit assignment.

April 2024 – Present

### Undergraduate Research Assistant – Dr. Navid Amini

Working on predicting eye disease in patients using Optical Coherence Tomography Angiography (OCTA) images

August 2022 – May 2023

- Applied existing vessel segmentation model on new images
- Proposed and tested different feature extraction methods from OCTA images
- Tested different predictive models on extracted features

### Undergraduate Research Assistant – Dr. Jiang Guo

Created a web application to show airport throughput in airports across the US

September 2021 – May 2023

- Wrote and deployed web application using Django, visualized throughput using chart.js and D3.js
- Applied ARIMA model to predict throughput given historical data to assist TSA agents
- Used MySQL to store historical data and update new predictions

### Undergraduate Research Assistant – Dr. Jie Zhong

Working on applying policy transfer to reinforcement learning models for stock trading.

August 2019 – May 2023

Previously worked on 3D object reconstruction and predicting the size of wildfires in California.

- Built trading environment from scratch using Open AI gym and used existing models from Stable Baselines.
- Applied NLP methods to generate additional features for RL model from news data.
- Used PyTorch to write, train, and test 3D object reconstruction and salient object detection models
- Gathered and cleaned forest fire and weather data from California fire departments and weather stations

### City of Los Angeles Collaboration – Dr. Jie Zhong

Analyzed PPP Loan data as part of the PIC Math program

Jan 2022 – May 2022

Continued working with the City of Los Angeles to analyze crime statistics after the program was complete

- Lead a group of four and reported findings to City of Los Angeles stakeholders
  - Analyzed Paycheck Protection Program (PPP) loan data to analyze equity in the distribution of loans
  - Used linear regression and statistical testing methods to determine crime trends in different neighborhoods
  - Provided actionable insights on loan distribution, bank availability, and business impact
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## Industry Experience

### Disney Television Animation – Data Science Intern

May 2022 – August 2022

Project: Wrote and deployed a web application to provide insights on production statistics

- Worked with company executives and teams who required production-specific metrics
- Used pandas to process raw data and MySQL to store processed data
- Used Flask for backend and React.js, D3.js for frontend
- Application was containerized and deployed using Docker

### City of Hope – Data Science Intern

June 2021 – August 2021

Project: Predicting adverse events from drug therapy in Multiple Myeloma patients

Research done under Dr. Srisairam Achuthan

- Cleaned raw data for use with machine learning models
- Applied balancing methods and performed k-best feature selection to assess model-free feature importance
- Used pandas to transform data from the Multiple Myeloma Research Foundation's CoMMpass study; used scikit-learn and PyCaret to automate model training and testing

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## Other Experience

MATH 5530 Deep Learning, *Teaching Assistant*

August 2021 – December 2021

Formula SAE Cal State LA, *Web developer and Electrical Team Member*

August 2019 – June 2022

NASA DIRECT-STEM, *Teaching Assistant*

February 2019 – September 2020

PHYS 3200 Computational Physics, *Teaching Assistant*

February 2019 – May 2019

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## Honors & Awards

FGSR Graduate Recruitment Scholarship

September 2023

Carl Gordon Memorial Scholarship

August 2022 – May 2023

William James Dermody Scholarship

August 2022 – May 2023

STEM Advantage Scholar

November 2021 – May 2023

John B. Willis Scholarship

August 2021 – May 2023

Phi Kappa Phi

August 2021 – June 2022

3<sup>rd</sup> Place Overall Oral Presentation Award RSCA

March 2021

Elliot R. Barton Scholarship

August 2020 – May 2023

Edison Scholars Award.

August 2020 – May 2023

Al & Ann Jicha Scholarship

August 2020 – June 2021

Edison STEM Scholarship

August 2020 – June 2021

Cal State LA Dean's List

August 2018 – May 2023