

# Mel Avina-Beltran

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## OBJECTIVE

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Mathematician with complex problem solving, creative thinking and programming experience specializing in the development of educational tools. Seeking to strengthen my knowledge of software design and development.

## EDUCATION

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### UC Davis

Expected December 2023

*Bachelor of Science - Applied Mathematics*

**Courses:** *Applied Linear Algebra, Ordinary Differential Equations, Numerical Analysis, Real Analysis, Modern Algebra, Probability, Engineering Problem Solving, Introduction to Programming, Introduction to Data Structures, Introduction to Programming and Microcontrollers, Human-Computer Interaction, Visualizing Society with Data*

## SKILLS SUMMARY

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**Languages:** Python, R, Latex, C++, JavaScript, Bash  
**Frameworks:** React, TensorFlow, Django, Flask, NodeJS  
**Platforms:** Linux, Windows, Arduino, Raspberry Pi, Android

## EXPERIENCE

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### CodeLab Davis

Davis, CA

*Senior Software Developer (Part-time, Remote)*

Winter 2020 - Present

- Contributed code to update responsiveness of existing UC Davis course info web platform.
- Worked in a cross-functional team along with a Project Manager, UI/UX designers and developers for course info platform.

### UC Davis Math Department

Davis, CA

*Software Developer (Part-time, Remote)*

Fall 2020 - Spring 2020

- Invented a specialized systems dynamics software by creating a Google Chrome extension using Javascript to enable math modeling on Google Sheets similar to Vensim.
- Organized with team members, professor and students to run a heuristic evaluation, with a success score of 42%, testing the usability of the Google Sheets extension prototypes.

### Proficia Engineering

Los Angeles, CA

*Instructor and Electrical Engineering Intern (Full-time, In-Person)*

Fall 2018 - Summer 2018

- Prototyped a face detection and tracking system, with a 94% accuracy rate, on a Raspberry Pi and Arduino using OpenCV, Python, and pan/tilt mounts.
- Developed and led 8-week Front-End Web Development Program for 20 transitional age, housing insecure youth using Chromebook friendly text editors: Replit and Caret.

### UCLA Laboratory of Embedded Machines and Ubiquitous Robots

Westwood, CA

*Electrical Engineering Intern (Full-time, In-Person)*

Summer 2019

- Collaborated with team to integrate mechanical, electrical and software components onto robotic paper boat prototypes using an Arduino, plastic film, a small power source and servo motors.
- Constructed an observational research study utilizing A4 paper, slide and dial widgets, and a user-friendly flask GUI, capable of testing Kindergarteners creativity and efficiency.

### Mathnasium

El Segundo, CA

*Math Tutor (Part-time, Hybrid)*

Spring 2021 - Summer 2022

- Improved students' comprehension and grades through assessment and diagnosis, development of learning plans, and documentation of progress, showing a 30% conceptual comprehension and retention increase.
- Cultivated a positive student learning environment while administering Mathnasium curriculum to an average of 5+ students per hour, in elementary, middle and high school.

### Santa Monica College STEM Program

Santa Monica, CA

*Tutor and Peer Mentor (Part-time, In-Person)*

Fall 2020 - Spring 2020

- Guided underrepresented STEM 75+ students visiting lab space daily for hourly drop-in and appointment tutoring sessions, covering lower division math, computer science and engineering courses, by recommending textbooks, software, and learning materials to complement tutoring.
- Connected with and provided feedback to 25+ students weekly, using positive reinforcement techniques to build confidence in and guide underrepresented STEM students through their academic plan.

## LEADERSHIP EXPERIENCE

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### **La Familia de UC Davis**

Davis, CA

*Co-Facilitator*

*Fall 2020 - Present*

- Delegates responsibilities to team of four, to assist in raising \$3000+ of funds, increasing membership by 50% and organizing and hosting academic, professional and social events for 100+ active LGBTQ Latinx members.

### **CALESS (Chicanx and Latinx Engineers and Scientists Society)**

Davis, CA

*Internal Academic Officer*

*Fall 2020 - Spring 2022*

- Raised \$2,000+ yearly to host weekly study jams with a space, dinner and engaging activities provided to incentivize academic and social member participation, as well as retain over 150+ active members.