

# MATTHEW NIEVA

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## EDUCATION

### University of California, Los Angeles

B.S. in Computer Science & Engineering

Coursework: Data Structures and Algorithms, Machine Learning, Operating Systems, IoT, Software Construction

Expected Graduation: June 2024

GPA: 3.95, Dean's Honors List (2020-2022)

## EXPERIENCE

### Machine Learning Software Engineering Intern | Cisco June 2022 - September 2022

- Optimized functions within machine learning prediction/training pipelines on millions of hardware devices by around 96% with vectorization, matrices, and parallelization (*Numpy, AWS, Apache Spark*)
- Estimated to save up to \$30000 yearly on machine learning costs with new paradigms of computation

### Internet of Things Software Engineering Intern | Miravel June 2021 - September 2021

- Established continuous streaming, processing, and validation of telemetry data to the cloud by writing both firmware and a backend server for a smart garden system (*OCI, Apache Kafka, ESP-32, REST APIs*)
- Developed and integrated companion app to interface with hardware/backend (*Websockets, React Native*)

### Dev Team Director & Training Director | ACM UCLA August 2020 - Present

- Led a dev team of 20+ members that created and maintained full-stack projects supporting infrastructure for a Computer Science club with 200+ officers and 1500+ members and the greater CS community
- Centralized, planned and led 15+ hours of training curriculum to teach web/project development
- Pushed for open-source initiatives and strengthened infrastructure to support future club expansion

## PROJECTS

### Lockr | LA Hacks 2022 2nd Place (68 Teams) April 2022

- Developed an IoT system to make autonomous community smart lockers by scanning credit card chips
- Wrote firmware to manipulate hardware with mobile client (*ESP-32, WiFi, Websockets, RFID*)

### LoRaX | IDEA Hacks 2022 3rd Place (20 Teams) February 2022

- Established distributed IoT system of nodes to process environmental telemetry data (*ESP-32, MongoDB*)
- Wrote firmware to connect hardware modules within 500 feet via WiFi (*Websockets, WiFi, HTTP Server*)

### Be Heard | XHacks 2021 Startup Track Winner (102 Teams) August 2021

- Wrote REST APIs to curate personalized news feeds and summarize articles with NLP (*Flask, PyTorch*)
- Utilized cloud services to secure user authentication, store data, deploy our backend servers, and set-up a CI/CD pipeline (*AWS, MongoDB Atlas, JWT Auth*)

### Eyewalk | Innovate@UCLA Spring 2021 Winner (4 teams) Spring 2021

- Worked with gov't officials to make a pedestrian routing app that finds the safest route within a city
- Developed full-stack solution to harness both public and crowdsourced data and presented our app to a panel of investors and industry specialists (*React Native, Firebase, GCP, Express, GoogleMaps API, ArcGIS*)

### TasteBuds | LA Hacks 2021 Network Track Winner (135 teams) March 2021

- Made an IoT system of modules to integrate student ID cards into a university dining social network
- Wrote backend code to interface hardware with backend of university data (*Firebase, GCP, Webscraping*)

### PracticePlayback | MakeHarvard 2021 Best Software Prize (51 teams) February 2021

- Integrated IoT system and utilized OCR to play sheet music from an uploaded picture on a microcontroller
- Created mobile client to control hardware and play music wirelessly (*Firebase, React Native, ESP-32*)

## SKILLSET

- **Languages & Tools:** JavaScript, TypeScript, C++, Python, HTML/CSS, Git, Github Actions, Bash, NumPy
- **Services:** AWS, GCP, OCI, Apache Kafka, Node, Apache Spark, MongoDB, SQL, Firebase
- **Frameworks:** React, Next.js, React Native, Expo, Express, Flask, Jekyll, ThingsBoard