




# FRENDY LIO

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## EXPERIENCE

### University of Hawai'i at Mānoa

Software Developer

Aug. 2020 – Present

Honolulu, HI

- Developing scripts to control and spoof/trick the trajectory of unmanned aerial vehicles.
- Programming software to gather data from corrosion sensors.
- Main tools: ArduPilot, Bash, DroneKit, MavLINK, and Python.

### STAR

Lead SQL Programmer

Jun. 2018 - July 2021

Honolulu, HI

- Lead the backend team of 7 to maintain and develop STAR Balance, an appointment website for all 50,000+ students and advisors at any 10 campuses of the University of Hawai'i System.
- Discussed solutions and alternatives with clients on new features and current bugs for STAR Balance.
- Programmed user-friendly interfaces for administrators for the different products of STAR.
- Main tools: MS Access, and MS SQL Server.

### Datathouse

Software Engineer Intern

Dec. 2019 – May 2020

Honolulu, HI

- Lead a team of 7 to create a kiosk check-in app for the animal quarantine station for the state of Hawaii that consists of a front-display and queueing system.
- Main tools: Angular, CSS, C#, HTML, MS SQL Server, and Typescript.

## COMPETITIONS

### AI Racing Tech - Indy Autonomous Challenge

Perception Team

May 2021 - Present

Honolulu, HI

- Discussing and creating the perception section that creates the data processing and gathering for an autonomous racing car.
- Main tools: C++, Docker, ROS, and, Python

### Game The System - HACC 2020

Lead Backend Developer

Oct. 2020 - Nov. 2020

Honolulu, HI

- Runner-up in Hawaii Annual Code Challenge 2020.
- Participated with a team of 7 and lead the back-end team to develop a web application to optimize and ensure ITS building security and guest access management.
- Main tools: Laravel, MS SQL Server, and Amazon Web Services.

### CRAM - EduHacks 2020

Project Manager

Aug. 2020 – Oct 2020

Honolulu, HI

- Third prize out of 250 teams internationally.
- Organized a team of four to create CRAM, a CREDIT Asset Management website where students can see their credits and plan their pathway while keeping their privacy via Blockchain.
- Main tools: VueJS, DDN Blockchain, and MS SQL Server.

### HECO Rewards - HACC 2019

Lead Hardware Developer

Oct. 2019 - Nov. 2019

Honolulu, HI

- First place in Hawaii Annual Code Challenge 2019.
- Collaborated in a team of eight to create a solution to increase the understanding of the current and future data from EV Charging Stations.
- Built and set up a Raspberry Pi with an Arduino Camera that will read the card's license plates and store them in our database.
- Main tools: MS SQL Server, and Python.

## PROJECTS

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### Covid-19 Detection

- A covid-19 machine learning detection algorithm that uses an FCN model to be able to classify CT-scans of lungs into Covid, Healthy, and Other.
- Obtained an accuracy of 91%.

### Facade Semantic Segmentation

- A facade semantic segmentation program that segments a building into five labels, balcony, facade, others, pillar, and window.
- Built using a U-Net and Stacked Hourglass Network.
- Obtained an average precision accuracy of 0.70%.

### Huligutta - Reinforcement Learning

- Built an Indian strategy game, Huligutta, to develop a reinforcement learning algorithm.
- Used a minimax algorithm to calculate the best piece movement for a player.

### Plant Detection

- Developed an algorithm to detect if an image contains a plant or not.
- Used perceptron, bagging, and, random forest algorithms.

## EDUCATION

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### University of Hawai'i at Mānoa

*Master of Science in Electrical Engineering*

**Aug. 2020 – Present**

*Honolulu, HI*

### University of Hawai'i at Mānoa

*Bachelor of Science in Computer Engineering*

**Aug. 2018 – May 2020**

*Honolulu, HI*

### Leeward Community College

*Associates of Applied Science in Engineering*

**Aug. 2016 – May 2018**

*Pearl City, HI*

## ACTIVITIES

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### Programming and Algorithms Club

*Member*

**Aug. 2018 – Present**

*University of Hawai'i at Mānoa*

- Attending weekly meetings to improve and assist students with their algorithms skills.

### IEEE Eta Kappa Nu

*Pledge*

**Aug. 2019 – May 2020**

*University of Hawai'i at Mānoa*

- Successfully inducted as an IEEE Eta Kappa Nu Honor Society Member.
- Tutored weekly freshman and sophomore courses.
- Volunteered in various event associated with IEEE and the College of Engineering at the University of Hawai'i at Mānoa.

### Native Hawaiian Science and Engineering Mentorship Program

*Member*

**May 2018 – May 2020**

*University of Hawai'i at Mānoa*

- Volunteered for various STEM event-related to incentivize incoming native Hawaiian students to pursue degrees in STEM.
- Judged for the Hawaii State Olympiad UHM Regional Tournament. Created an engineering exam and hands-on test for middle and high school students.

## LANGUAGES

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**Portuguese:** Native or bilingual proficiency

**Spanish:** Native or bilingual proficiency