

# Owen Mastropietro

## EDUCATION

**Master of Science — Computer Science**, San Jose State University, California  
**Bachelor of Science — Computer Science**, Sonoma State University, California

In Progress  
Awarded Fall 2023

## RESEARCH

**Graduate Research / NeuroLoop**  
<https://sites.google.com/sjsu.edu/gautamkumar/home>

- Developing novel RL-driven cl-DBS system for controlling excitatory-inhibitory network synchronization.

In Progress  
*San Jose, California*

**Graduate Research / FathomView**  
<https://github.com/owenmastropietro/fathomview>

- Developed deep learning models for enhancing and correcting underwater images for the Monterey Bay Aquarium Research Institute; accompanied by an IEEE report.

January 2024 — May 2024  
*San Jose, California*

**Private Research / Aero Momentum**  
<https://aeromomentum.com>

- A computational study for an on-board ADS-B driven Collision Avoidance System.

August 2022 — May 2023  
*San Jose, California*

## SELECTED PROJECTS

**FathomView — Underwater Image Enhancement**

Python / PyTorch / TensorFlow

- Developed deep learning models for enhancing and correcting underwater images for MBARI.

**FLCDA — Distributed Network for *in silico* Federated Learning**

Docker / Python / PyTorch / TensorFlow

- Developed an *in silico* distributed network model to compare centralized and decentralized approaches to distributed learning.

**Lobo Shell — Interactive shell**

C / Bash

- Command line shell with support for pipes, I/O redirection, and character escapes.

**Capstone Streaming App — Music Streaming Application**

React / Koa.js / MySQL

- Full stack music streaming application based on Spotify.

**Orbital Deployment — Satellite Deployment Optimization**

C++ / Bash

- Optimize the planning and execution of satellite deployment missions, maximizing profitability and efficiency, ensuring timely and cost-effective delivery of satellite payloads into their designated orbits.

**Draught Services — Transaction Analytics Dashboard**

React / Koa.js / MySQL

- Developed a data visualization dashboard to provide clients with important analytics, helping optimize service routes and ensure consistent performance across multiple cities.

## EXPERIENCE

**Service Representative / Audi Stevens Creek**

June 2019 — Present

<https://www.audisanjose.com>

*San Jose, California*

- Worked on early vehicle diagnostics using onboard systems to enhance reliability and customer communication, directly improving service efficiency.
- Utilized MySQL to create and maintain databases for tracking and optimizing various aspects of the service center.

**Service Representative / Ship Smart**

June 2017 — August 2021

<https://www.shipsmart.com>

*Aptos, California*

- Process Automation: Proposed and led initiatives to automate shipment tracking and status updates, significantly reducing manual labor and improving the system's scalability.

**Internship / Joseph M. Long Marine Laboratory**

June 2016 — August 2016

<https://seymourcenter.ucsc.edu>

*Santa Cruz, California*

- Conducted research on the harms of carbon emissions along the coasts of the Bay Area.
- Guided tours and exhibitions, educating the public on current research findings.

## SKILLS

**Languages**

Python, C/C++/CMake, Go, JavaScript, HTML, CSS, MySQL, Bash, Markdown, LaTeX, and Scheme.

**Tools**

Git, GitHub, Apache Hadoop/Mahout/Spark, React, MUI, Node.js, Koa/Express.js, Pytorch, Tensorflow.