

MS or PhD Position in AI for Reef Fish Behavior Detection

Start Date: Fall 2026

Location: Department of Ocean Resources and Engineering and Hawai‘i Institute of Marine Biology, University of Hawai‘i at Mānoa

Compensation: Annual stipend plus tuition waiver pending project funding (TBD September 2025). Selected applicant will also be expected to apply for internal and external fellowships.

Project Overview: We are seeking a motivated MS or PhD student to join an interdisciplinary project that uses **artificial intelligence (AI)** and **computer vision** to detect and classify **herbivorous behaviors** of coral reef fishes. Herbivorous fishes play a critical role in maintaining coral reef health, but current methods for monitoring their ecological function are labor-intensive, infrequent, and limited in scale. This project aims to build a multi-stage AI pipeline that can automate the detection of herbivorous behavior using underwater video data. The work is grounded in both applied conservation and basic ecological theory and offers the opportunity to contribute to fundamental questions in behavioral ecology while developing tools that can improve coral reef management across the Pacific.

The student will:

- Assist in curating and annotating video datasets of reef fish behavior from underwater videos.
- Lead development and training of a multi-stage AI model.
- Collaborate with an interdisciplinary team of fish ecologists and computational scientists.
- Participate in bi-monthly public outreach at Waikīkī Aquarium.
- Lead at least one peer-reviewed publication and present findings at national or international conferences.

Note, for this project, we will consider supporting a student through graduate programs based in the [Department of Ocean Resources and Engineering](#), [Department of Oceanography](#), [Marine Biology Graduate Program](#) and [Information and Computer Sciences Department](#).

The ideal candidate's background will include:

- Bachelor's degree in computer science, data science, engineering and/or applied math
- Experience developing machine learning models
- Excellent coding skills in Python
- Excellent written and interpersonal communication skills
- Genuine interest in ecology/conservation/sustainability
- Interest in science communication or public outreach
- Nice to have: Background in marine biology, fish behavior, or coral reef ecology
- Nice to have: Experience working with video datasets or annotation tools
- Nice to have: Familiarity with computer vision tools (e.g., object detection, image classification, tracking, etc.)

To Apply: Please complete the interest form on the Marine Innovation Lab for Leading-edge Oceanography (MILLO) website: <https://pagniello-lab.github.io/join-us.html> by **September 1, 2025, at 5:00 PM HST**. Email inquiries will not be returned.