From Students…
…to Professionals

Beta Presentation
Vessel Classifier for Marine Monitor (M2)

The Capstone Experience
Team Anthropocene Institute

Cedric Emmanuel
Connor Horton
Jacob Stacy
Paulina Bies
Jared Singh Sekhon

Department of Computer Science and Engineering
Michigan State University
Spring 2024
Project Overview

• Illegal fishing is prevalent, even in protected marine environments
• ProtectedSeas M2 monitors protected zones, but data needs to be analyzed
• Machine Learning data analysis needs large labeled datasets
• Our project streamlines dataset creation for other ML models
System Architecture

Website
Google Cloud

docker

Front End
JavaScript
CSS
HTML
Sass

Back End
Flask

ultralytics
YOLO

aws

Michigan State Bucket
Website Landing Page

```
M2 Vessel Classifier

What is the M2 Vessel Classifier?
```
Website Home (Classification Page)
Dictionary Tab

The Vessel Classification Dictionary includes categories such as Commercial, Private, Other, Large Commercial, Commercial Cargo, and Tug. The interface allows users to classify vessels, with options for correcting, marking as incorrect, selecting no vessel, skipping, or redrawing the box. The example shows a vessel classified as a commercial cargo vessel with a score of 0.87.
Bounding-Box Redrawing Window
What’s left to do?

• Stretch Goals
  ▪ Model Statistics page
  ▪ Restyle dictionary
  ▪ Implement Leaderboard
  ▪ FAQ page

• Other Tasks
  ▪ Package and document code for sponsors
  ▪ Tweak and improve UI
Questions?