TEC-V

BACKGROUND

CLIENT & ADVISOR

- DR. Wood
  - **Professor** | Ocean Engineering and Marine Sciences
  - **Program Chair for Ocean Engineering**

- Marius Silaghi
  - **Professor | Electrical Engineering and Computer Science**

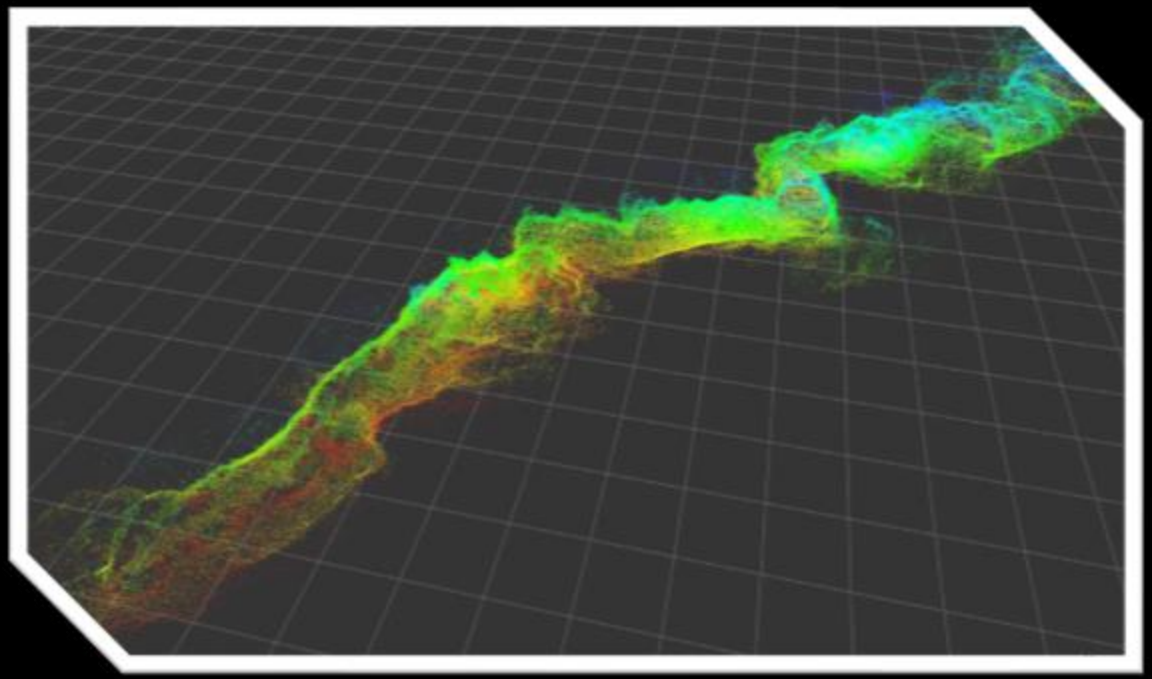
TEC-V

- Topographic
- Exploration
- Cave
- Vehicle

CAVE MAPPING

Problem

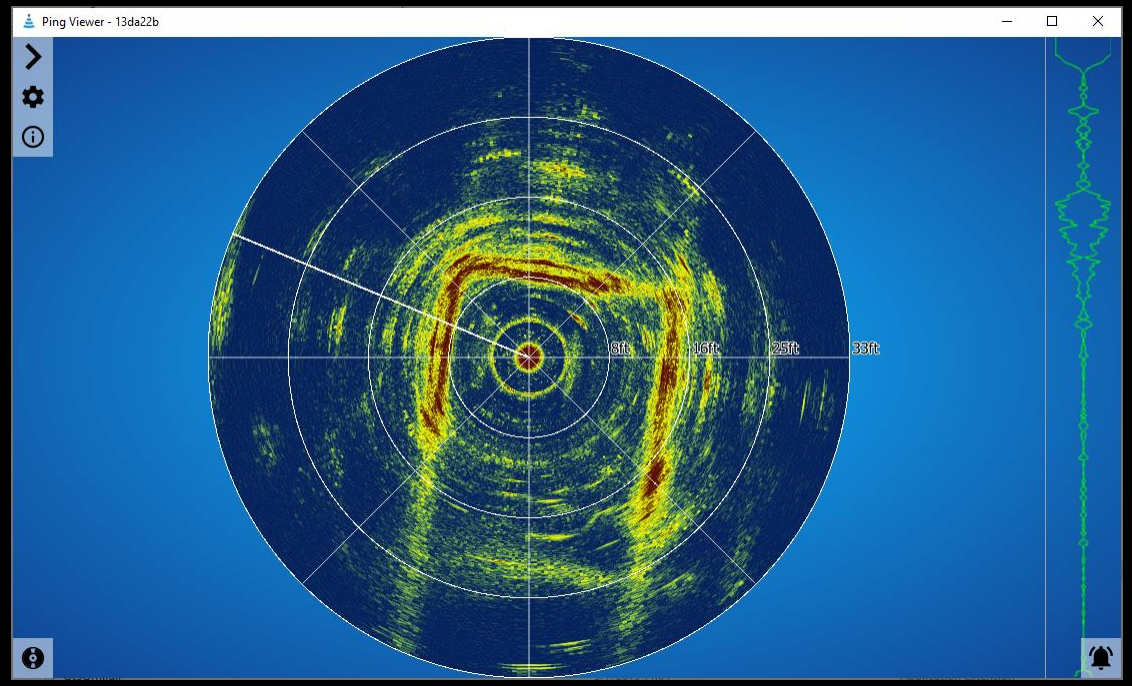
Goal



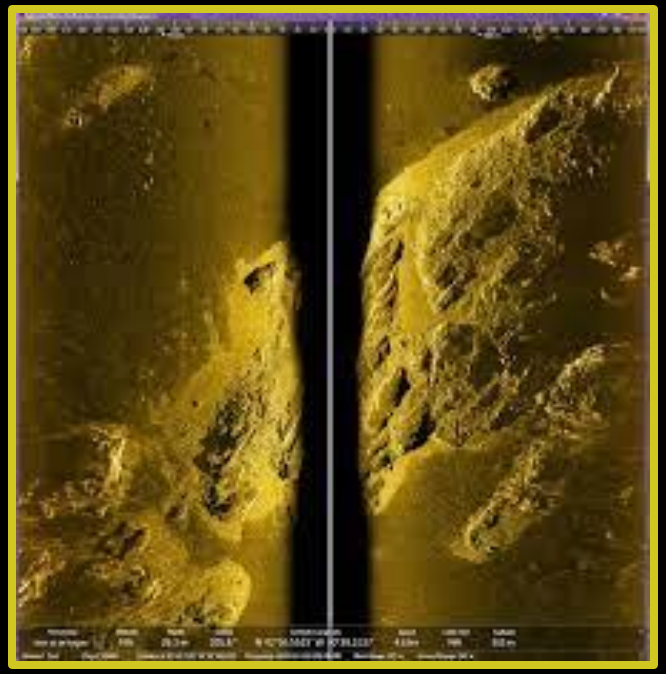
HOW?

SONAR

360 Sonar



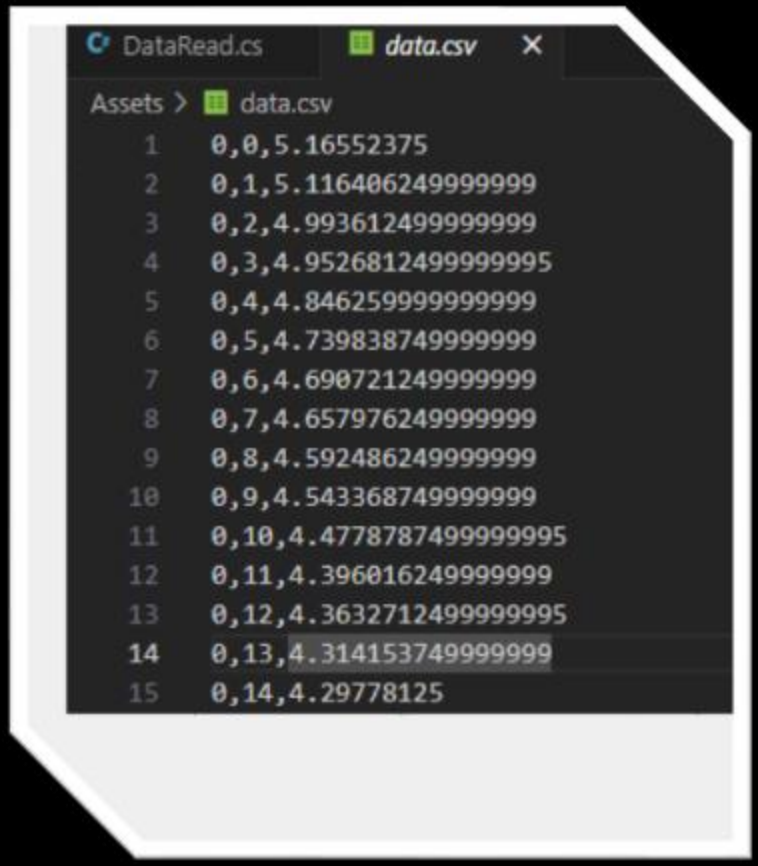
Side Scan



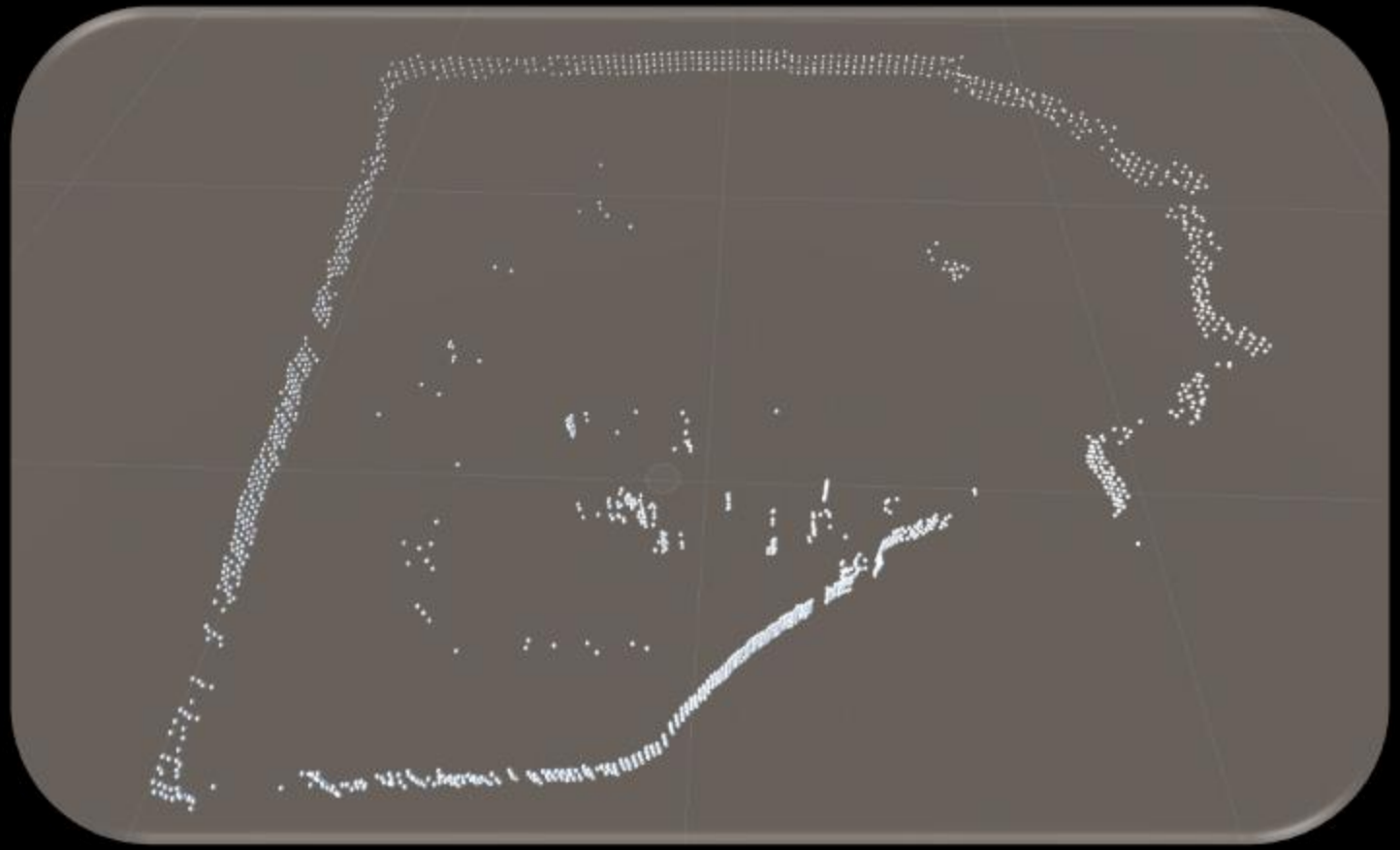
DATA SAVING

Data.csv

- Five categories
  - Depth (in progress)
  - Angle
  - Most likely distance to object
  - Telemetry
  - Time Stamp



MAPPING

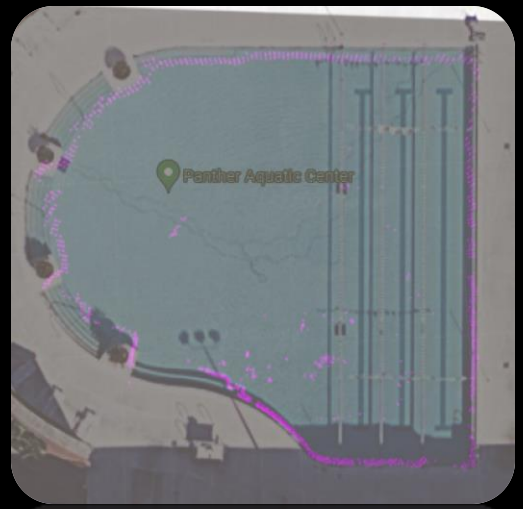


TESTING

10-21-23

- Clemente Pool 10 a.m. to 1 p.m.

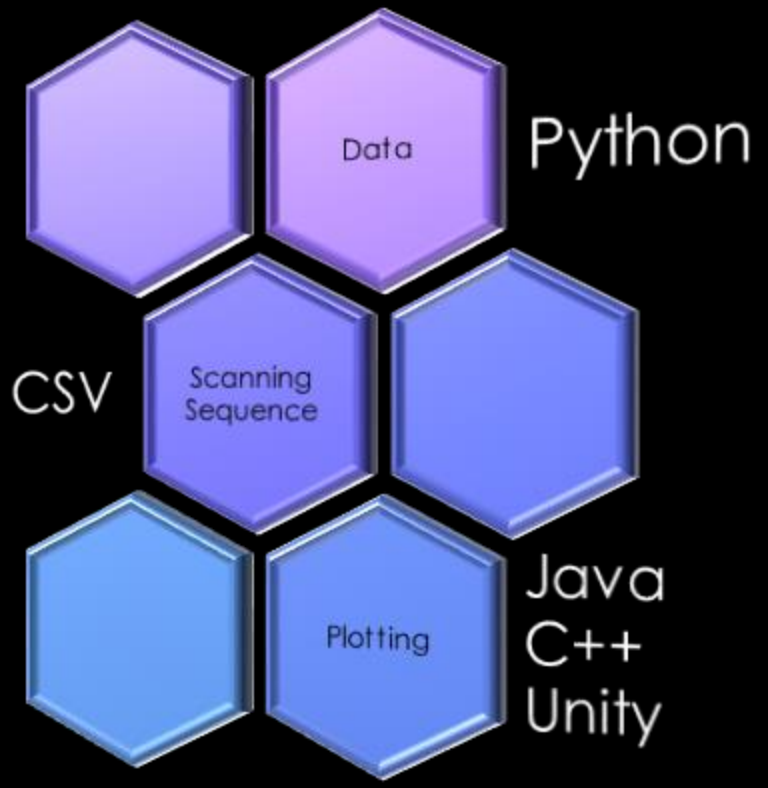
- Goal:
  - Test sonar data retrieval
  - Collect Data for Cloud Plotting
  - Have a real-world test to see accuracy



PREFERRED SKILLS

PRIMARY TOOLS

- Coding Languages:
  - Data: Python
    - Raspberry Pi
  - Plotting: Unity / C++
    - Allows for better data manipulation in 3D environment
- Other Skills:
  - Web or app development
  - Data Manipulation



CURRENT TEAM

COMPUTER SCIENCE TEAM

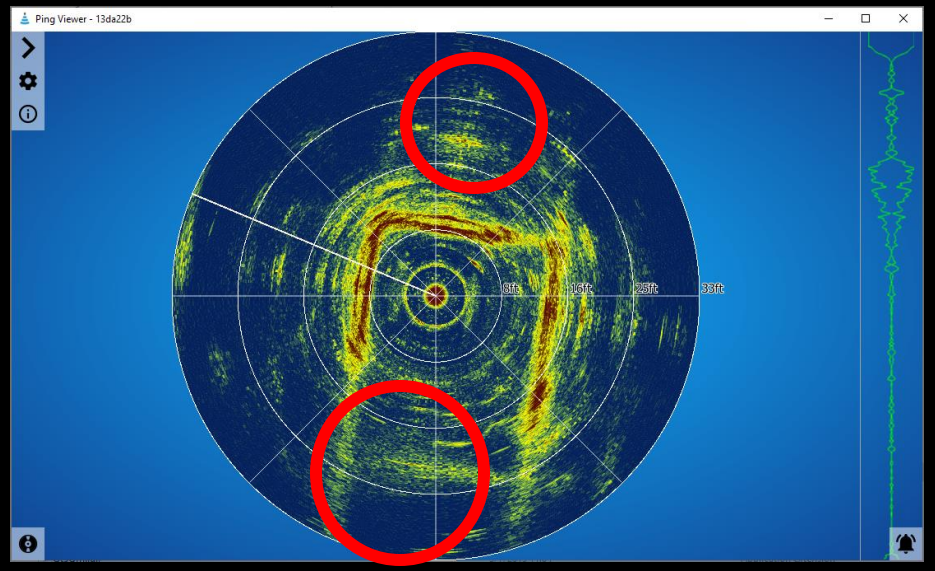
Michael Dowling

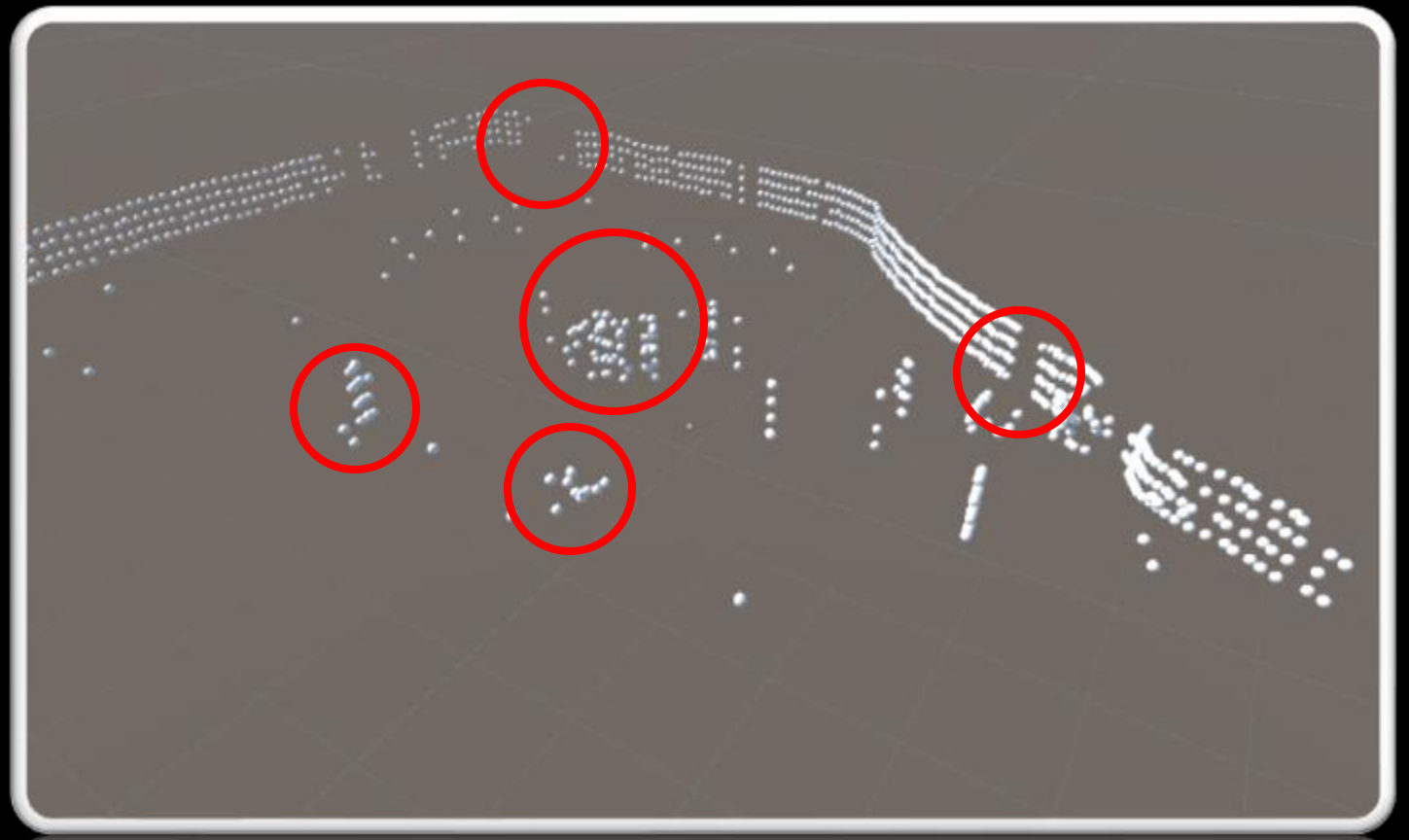
- Rotation plotting
  - Using telemetry data to help fix cloud plots when or if a rotation/angle changes
- Working with new sonar
- False Data

Zealand Brennan

- Autonomous navigation
  - Utilizing Gazebo

EXAMPLE PROBLEM: FALSE DATA





OCEAN ENGINEERING TEAM

Spring 2024

- Mount new Side Scan Sonar
- Create an outer shell
  - Carbon Fiber

QUESTIONS?

CONTACT INFO:

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