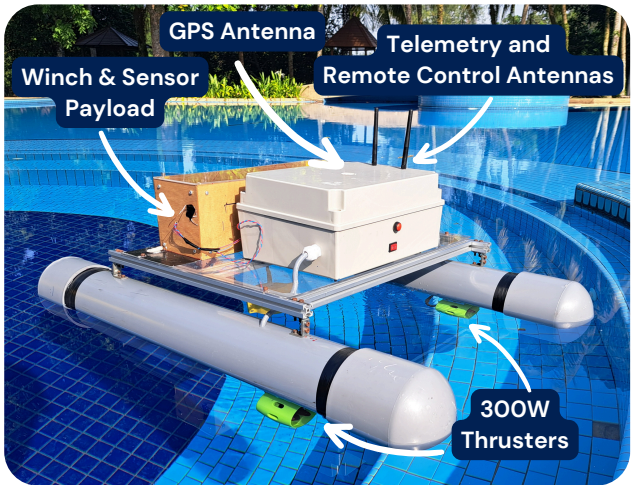
TECHNICAL SPECS



Length x Width	90cm x 50cm
Weight	9.5kg
Temperature	RTD Probe, ±0.5°C accuracy
Depth	Ultrasonic Sensor, max 3m
Battery	2x5000mAh LiPo, approx. 1.5 hours battery life.
Data Collection Time	Approx. 1 minute per waypoint
Telemetry Radio	Approx. 1km range
Remote Control	Approx. 100m range
Dual Data Storage	UI and SD card
Desktop User Interface (UI)	
Autonomous Navigation powered by Robot Operating System (ROS2)	

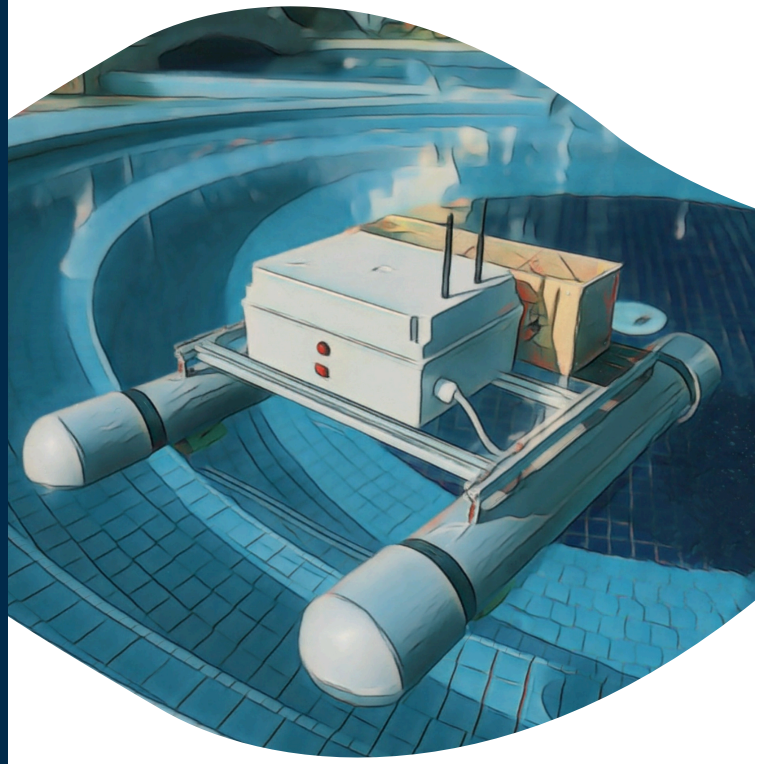
THE TEAM

NOTT-A-SQUAD MEMBERS

- Ushan Fernando (ecywf1)
- Syaza Emira (efyss18)
- Jamal Alsheikh (efyja4)
- Harthi Ganesh (ecyhg1)
- Dr. Freddy Tan (Facilitator)

WE MANIFEST

AVALON



THE LADY OF THE LAKE

ABOUT AVALON

The **Autonomous Vehicle for Aquatic Landscape Observation and Navigation (AVALON)** aims to provide accessible and reliable freshwater temperature monitoring solutions through innovative autonomous surface vehicles, empowering communities to safeguard their freshwater resources and aquatic life. AVALON can help you with the following:

Measuring changes in temperature patterns below water surfaces

Surveying water temperatures in understudied regions

Understanding the effects changes in water temperatures have on aquatic ecosystems

WHY CHOOSE US?

VERSATILE DATA COLLECTION

Capable of measuring temperature at the surface, midpoint, and bottom of waterbodies up to 3m deep

HIGH ACCURACY MONITORING

Temperature readings taken have an accuracy of ±0.5°C providing highly accurate data for environmental analysis

INTERCHANGEABLE NAVIGATION MODES

Autonomous navigation to user-selected waypoints to collect temperature data as well as remote control for emergencies

USER FRIENDLY

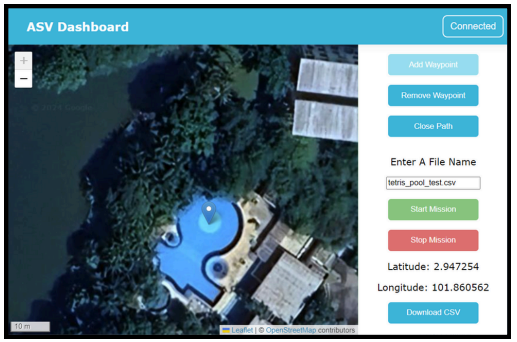
Laptop User Interface to connect to AVALON through telemetry radio, enabling easy mission planning and retrieval of data

EASILY UPGRADEABLE

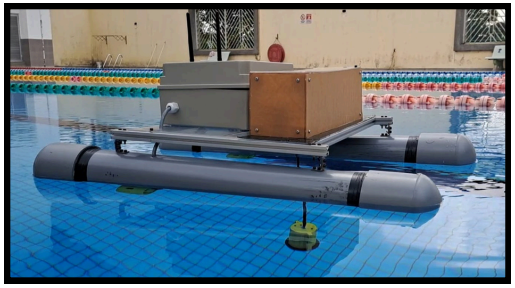
AVALON's modular hardware and software design allows for ease of future upgrades such as accurate positioning, navigation algorithms

USING AVALON

Step 1: Connect to AVALON, select waypoints, name the storage file, and start your mission.



Step 2: Wait for AVALON to complete the mission of collecting temperature data at three different depths for the given waypoints.



Step 3: Download your data from the UI or read it from the SD card in AVALON's electronic box.

Date	Time	Latitude	Longitude	Depth/mm	Temperature/°C
27/4/24	14:34	2.947274	101.8605	998	34.3
27/4/24	14:34	2.947278	101.8605	501	34.2
27/4/24	14:35	2.94728	101.8605	72	34.2