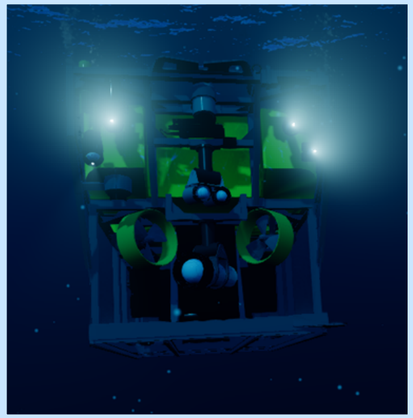
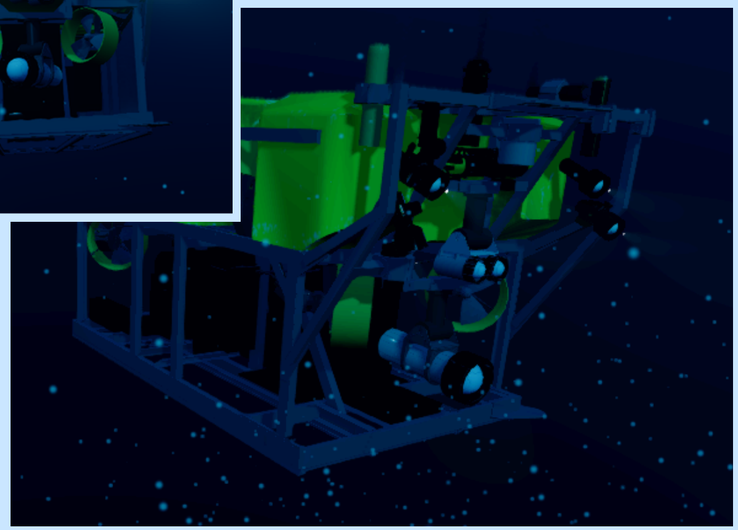
Alessandro Puglisi

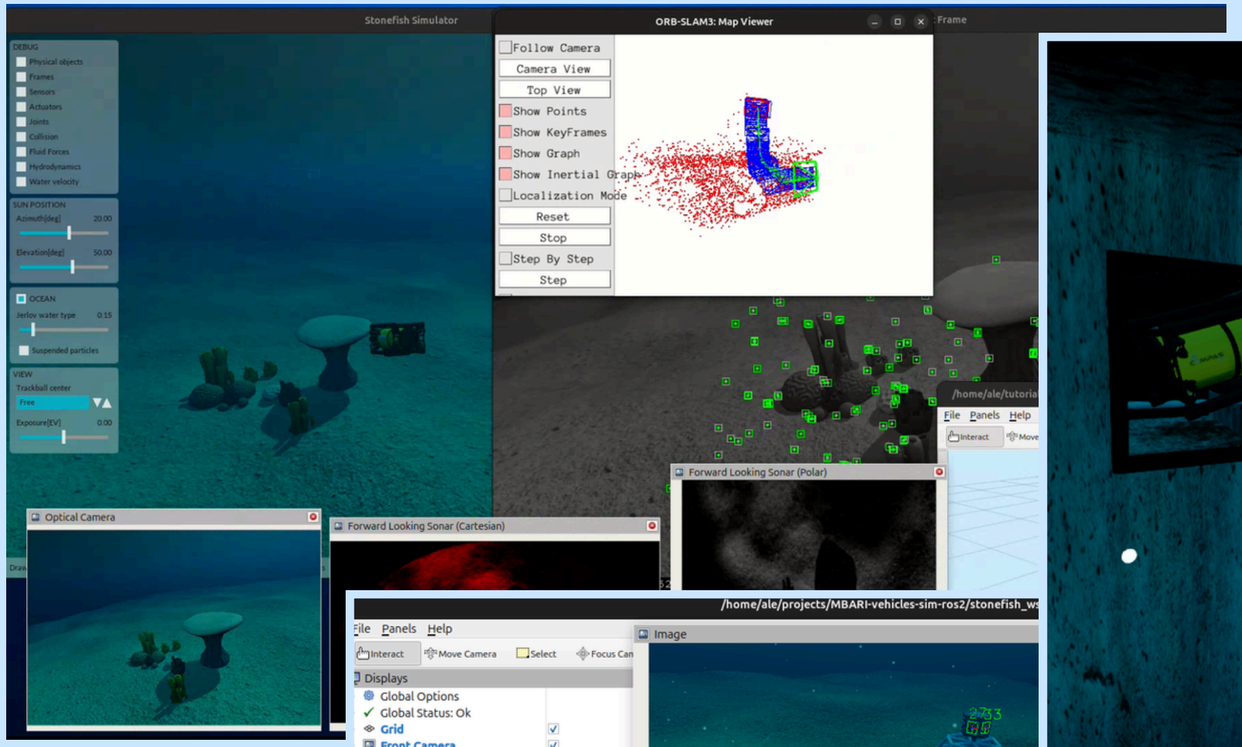
MBARI-vehicels-sim-ros2

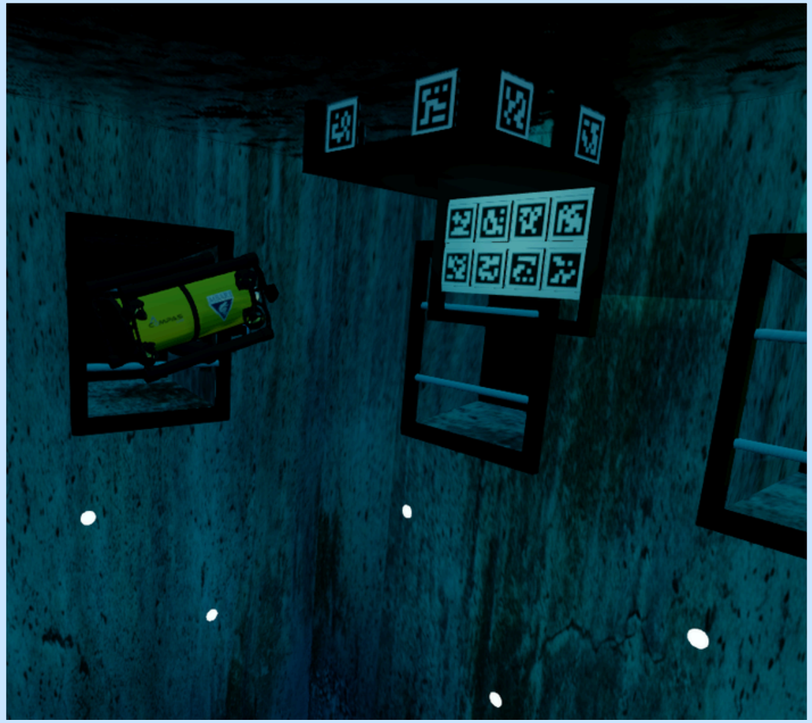
Ongoing Personal Project

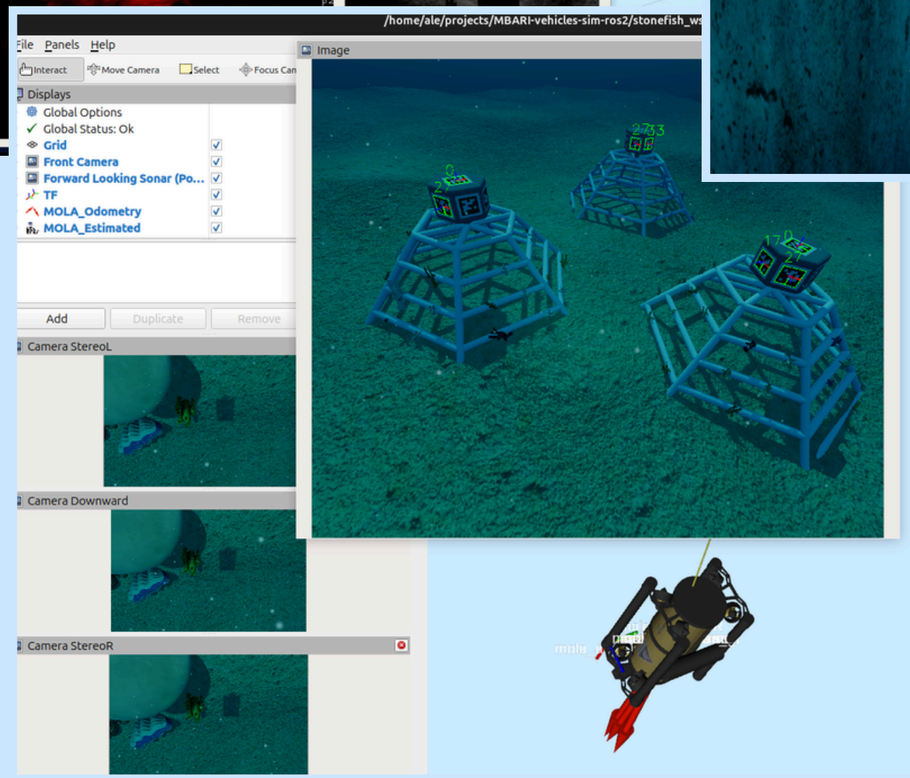
Unofficial simulator of MBARI vehicles with stonefish + ROS2

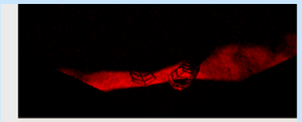


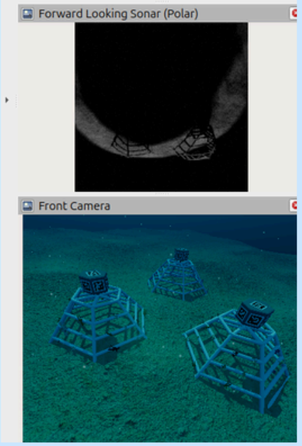




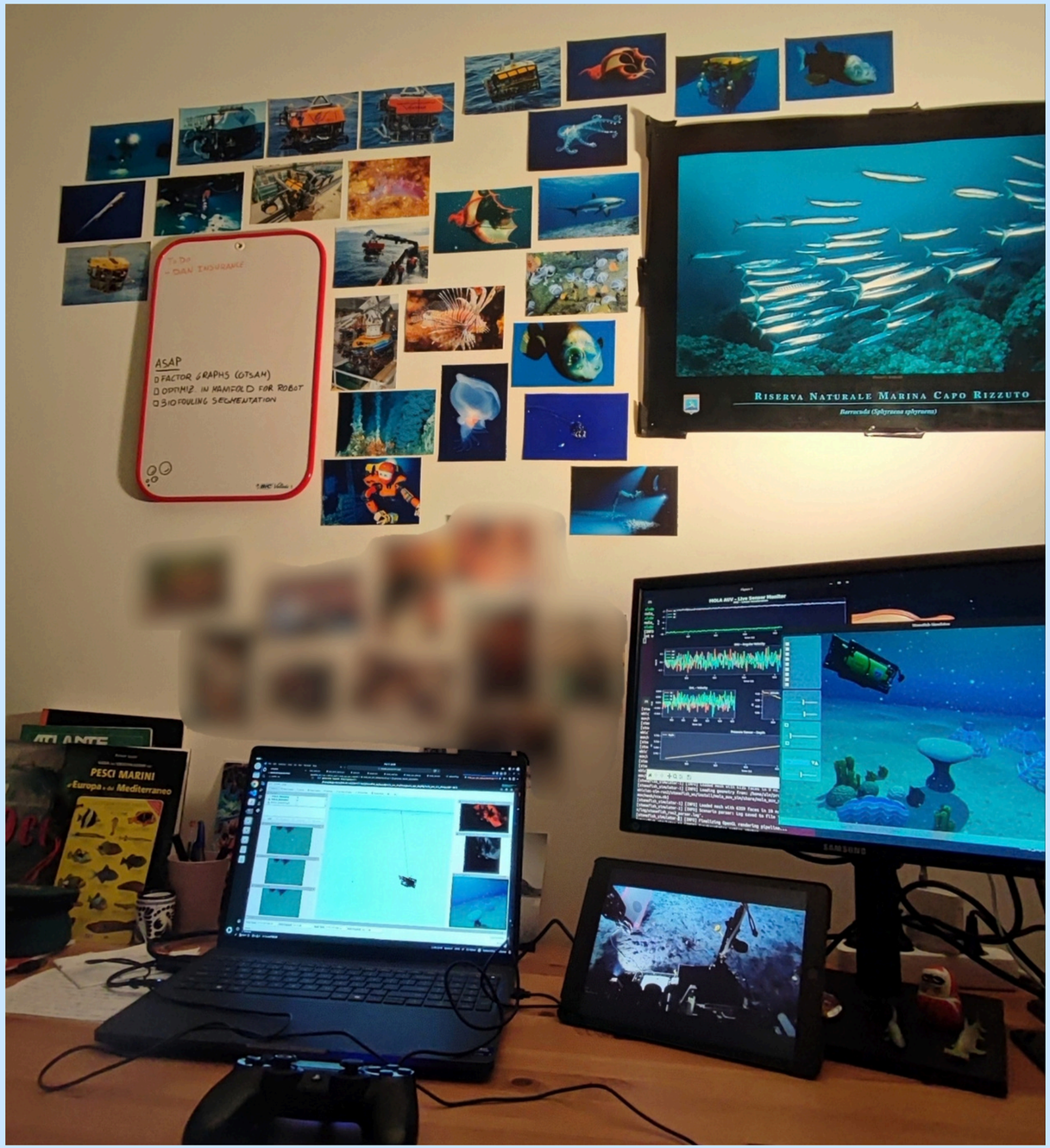




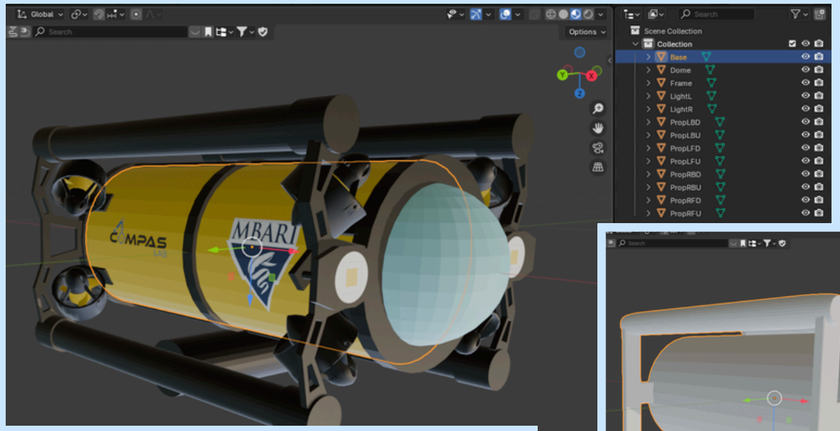


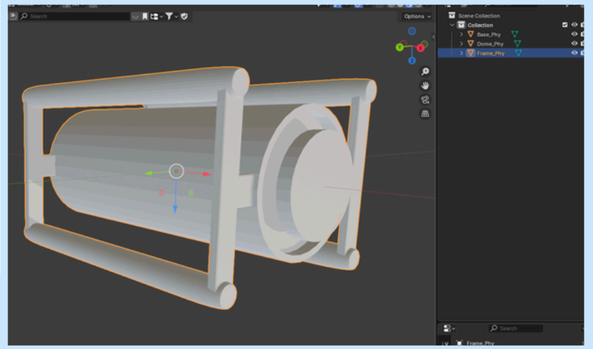


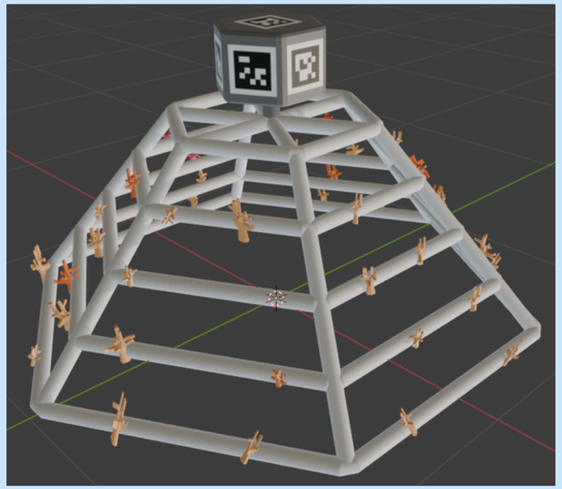
My “ROV Control Room”

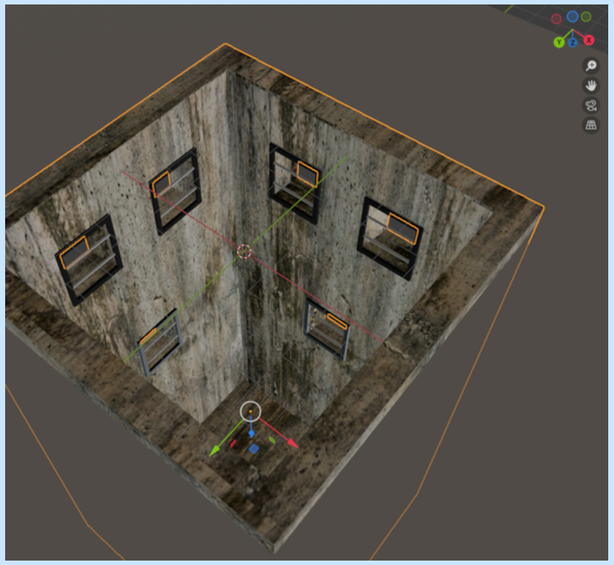


Creating the Models: meshes, textures, actuators and sensors





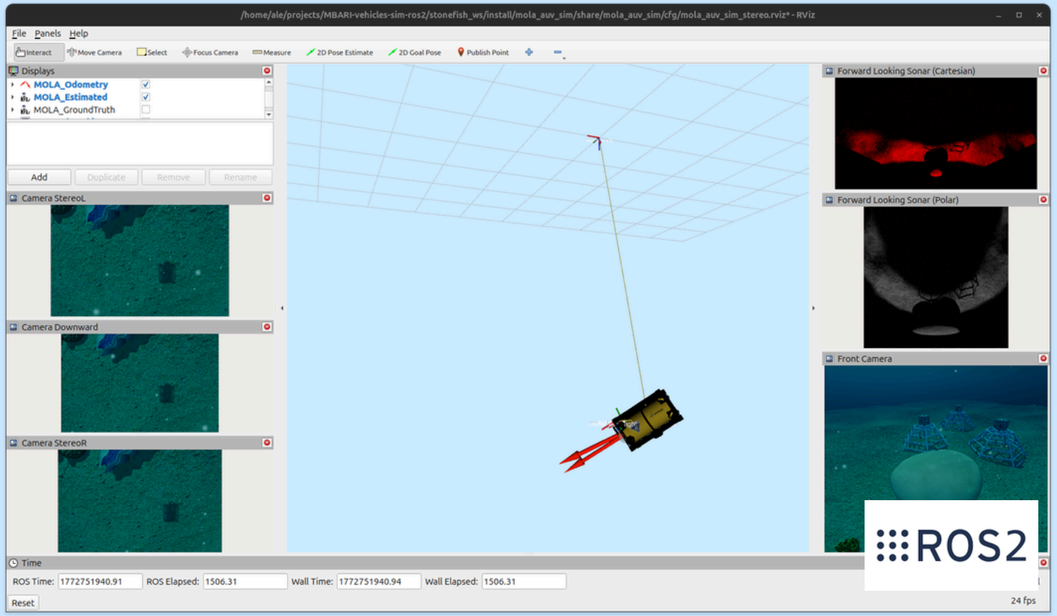




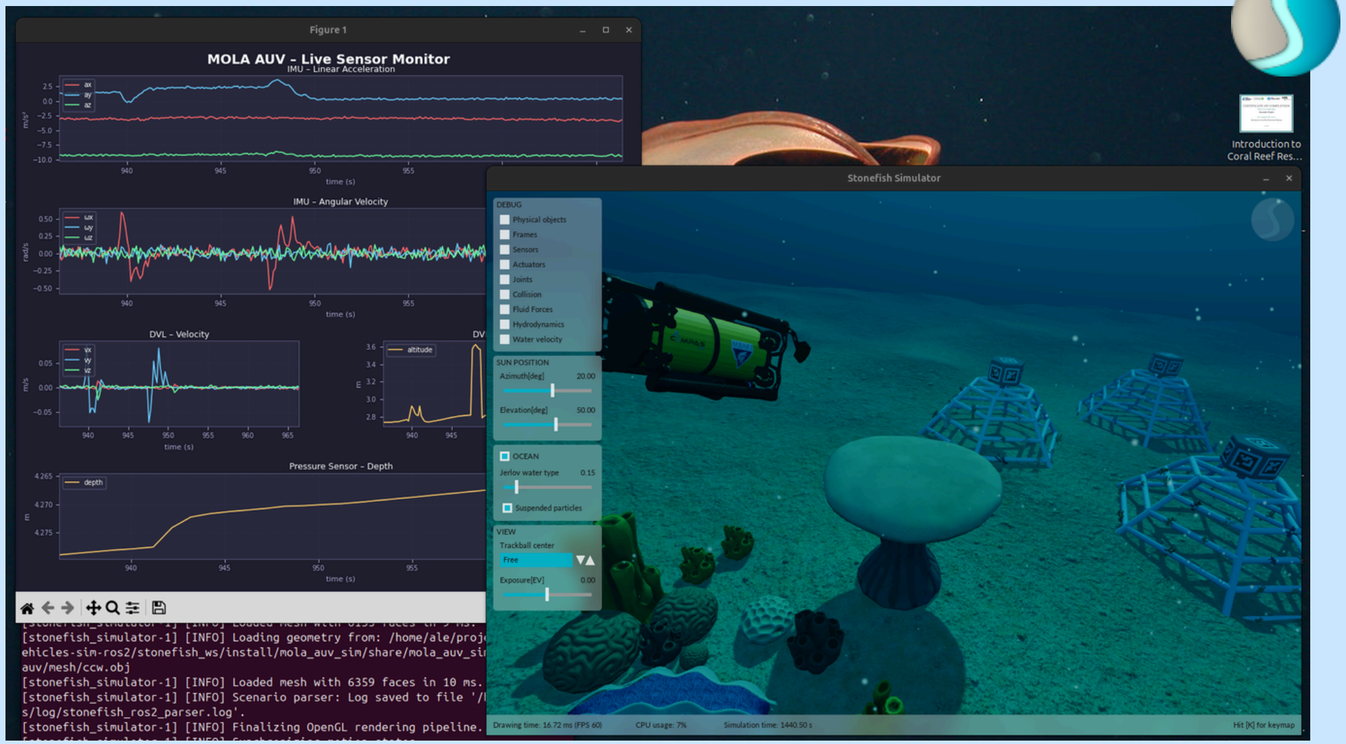
Robots data from official vehicles’ description

MOLA AUV

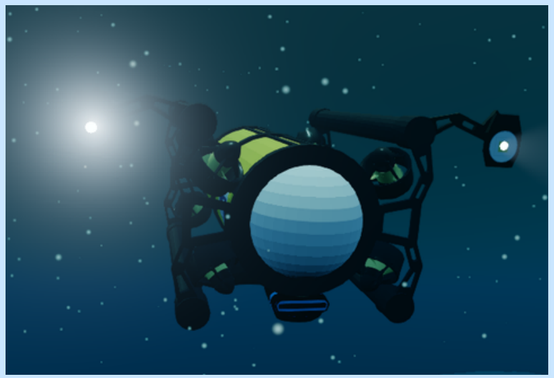
rviz2: robot state visualization + imaging sensors



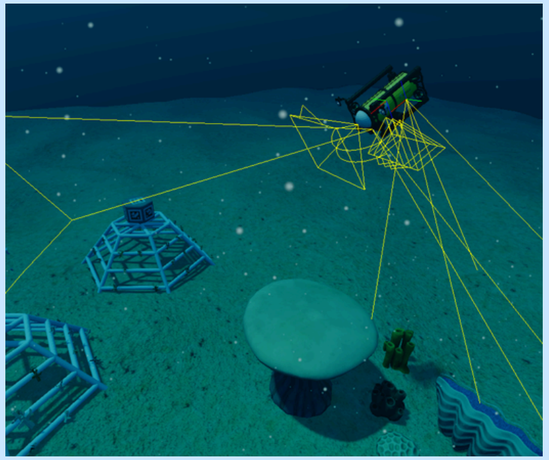
stonefish: underwater robot simulator



Reconfigurable lights through controlled servomotors



Consistent sensors arrangement



IMU

DVL

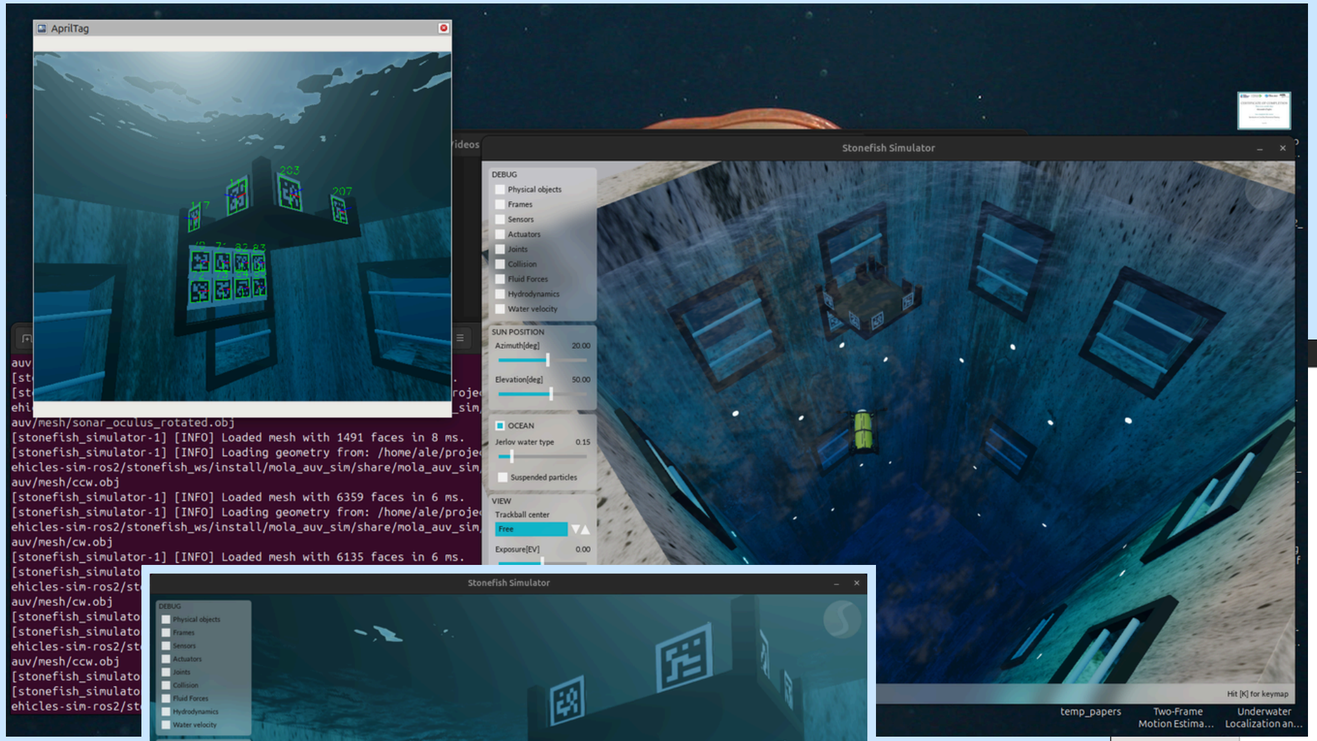
Mono Cam

Stereo Cam

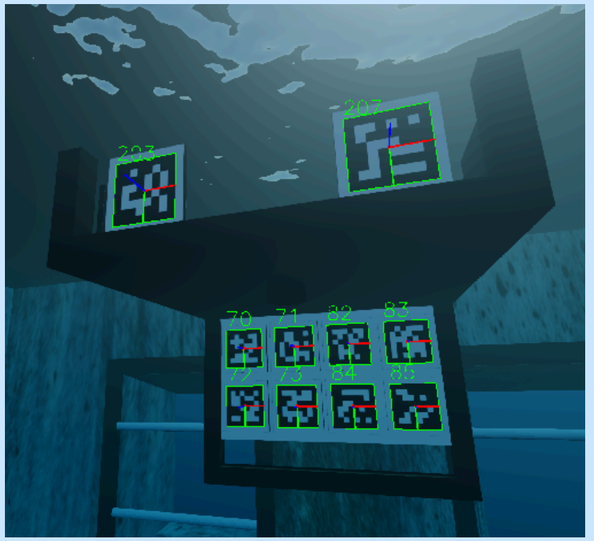
Imaging Sonar

MOLA: Testing Perception Algorithms

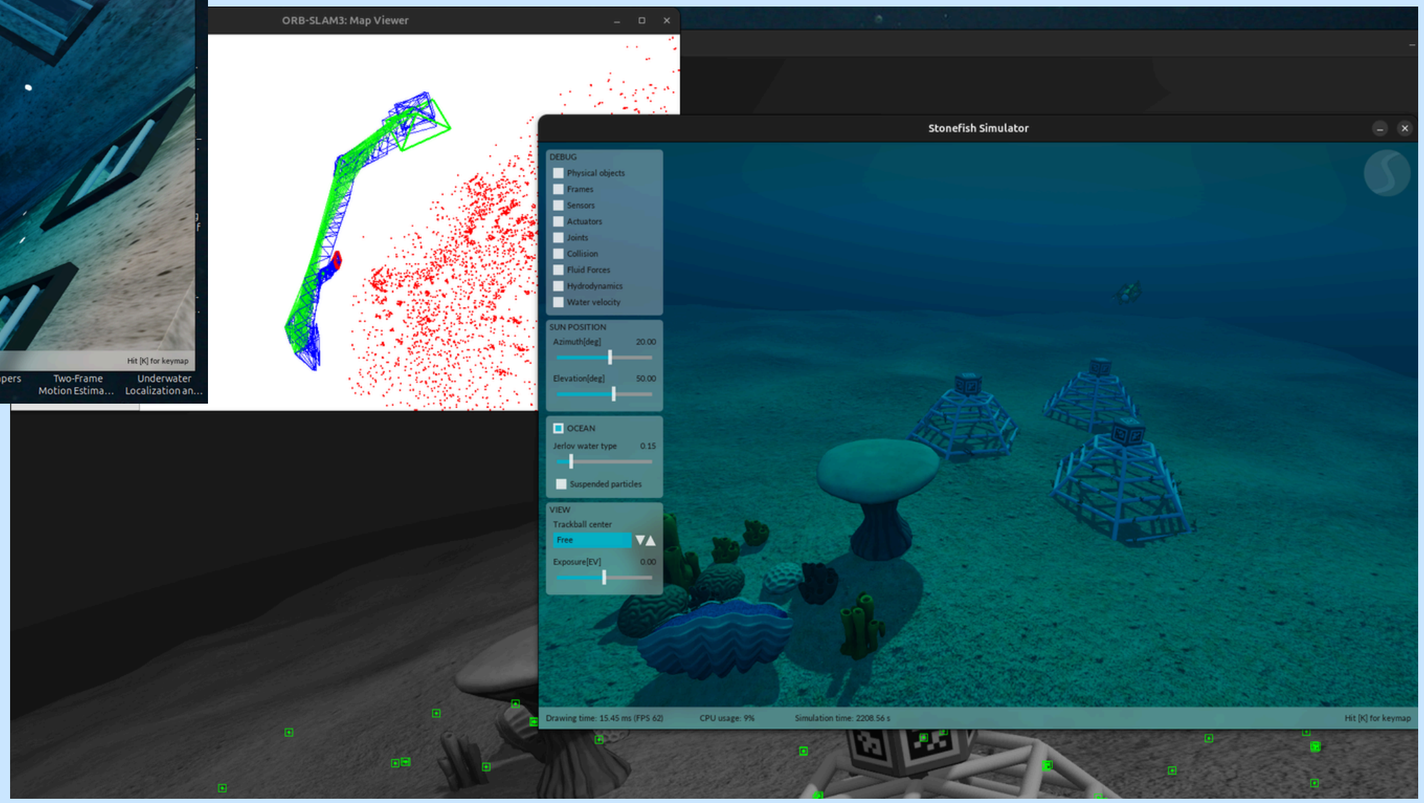
AprilTag Detection



Prototype Docking Station



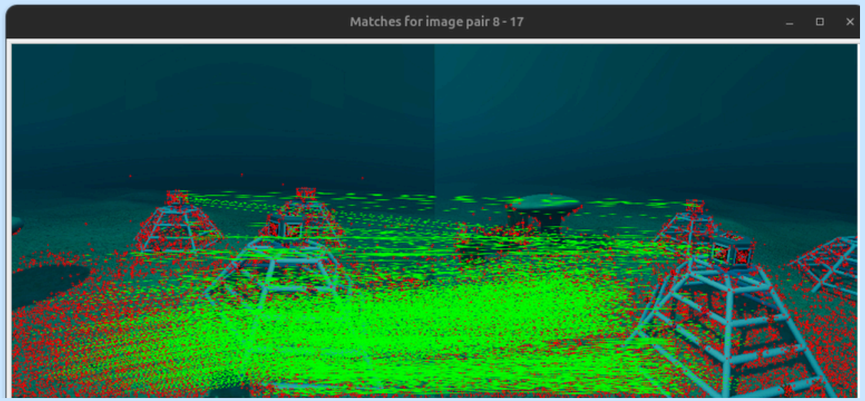
ORB-SLAM3 (with ROS2)



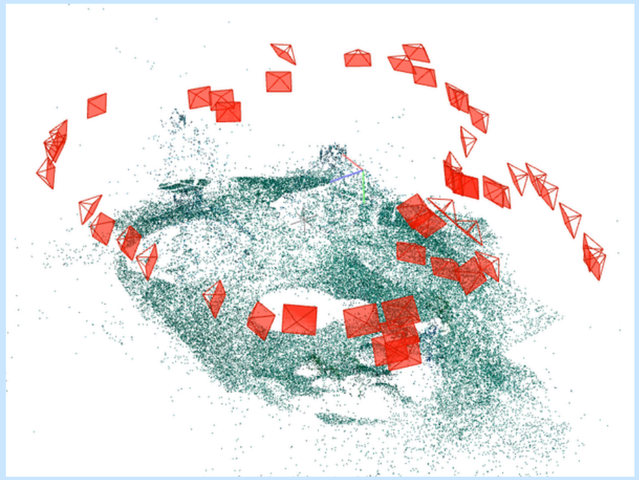
3D (Monocular) Reconstruction

SfM Point Cloud: COLMAP

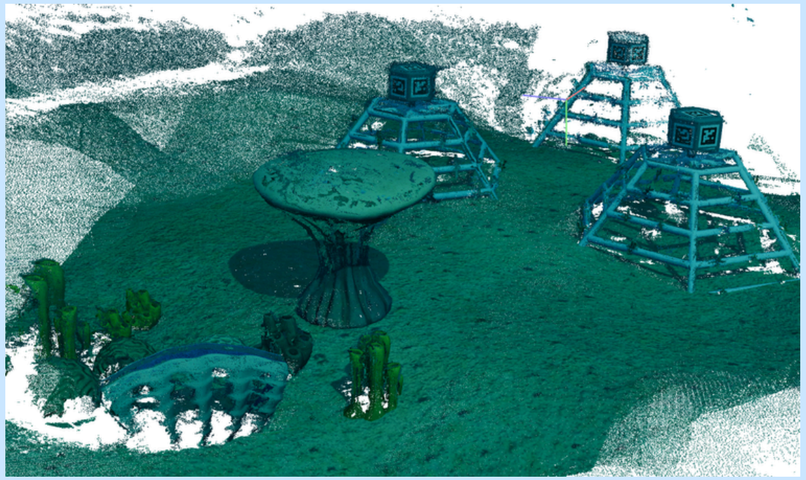
Feature matching



Sparse



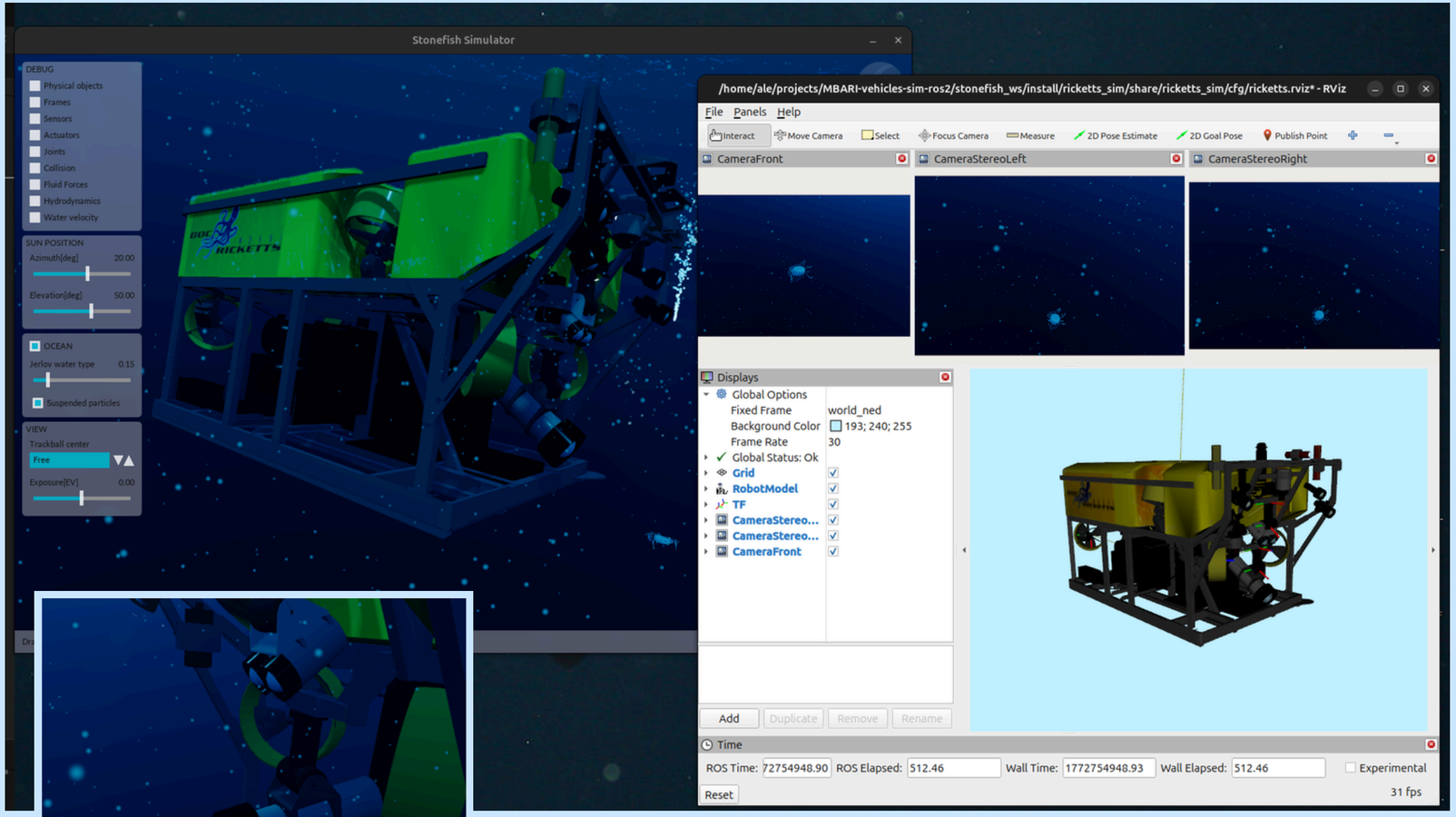
Dense (fused)

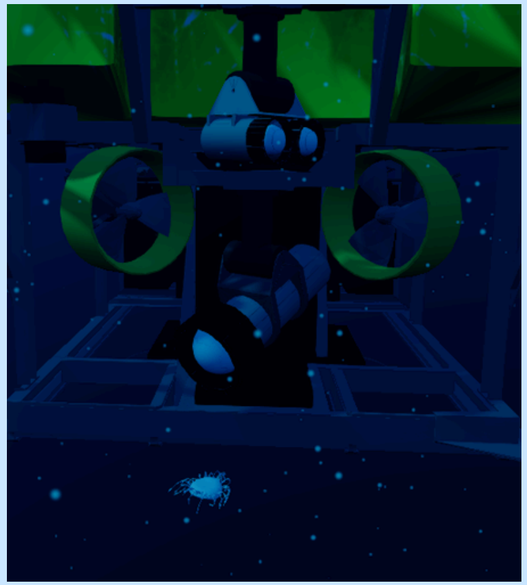


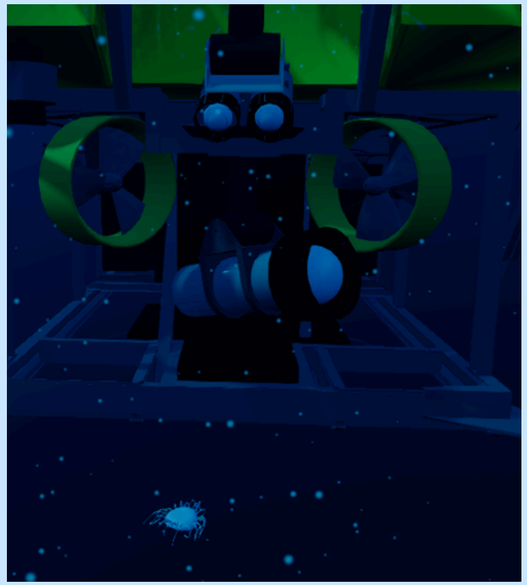
Gaussian Splat: nerfstudio gsplat

ROV Doc Ricketts

Servo actuated Pan-Tilt
Monocular and Stereo Camera







Dinner plate jelly (solmissus spp)
ready to be detected by object detection models

Stay tuned ! Many other features are under development.

https://github.com/AlePuglisi/MBARI-vehicles-sim-ros2