

Software for UUV Project

Operator Laptop (Python)

- Operator interface
 - Read input from controller, send controller input to Raspberry Pi
 - Command terminal to send commands directly to UUV
 - Display video feed
 - Display sensor data onscreen

Raspberry Pi (Python)

- Main program
 - Call functions from sub-programs as needed
- Operator communication interface
 - Connect to operator interface program
 - Receive controller input from operator computer
 - Receive commands from operator computer
 - Send sensor data to operator computer
- Vector calculations
 - Turn controller input into motor speed values
- Video stream
 - Read video from camera
 - Send video to operator computer
- Arduino serial communication interface
 - Send commands (motor speeds, servo angles, etc) to Arduino
 - Receive sensor data from Arduino

Arduino (C++)

- Main program
 - Call functions from sub-programs as needed
- Motor control program
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