

ROBOSUB 2025

Cornell University

Cornell University Autonomous Underwater Vehicle

Community & Outreach Description

During this semester, the Cornell University Autonomous Underwater Vehicle (CUAUV) team engaged with multiple communities to showcase our mission and innovations. First, CUAUV hosted a Drive the Sub event open to undergraduate and graduate students across campus, inviting participants to operate our underwater vehicle and gain hands-on experience navigating complex environments. Attendees learned control systems, buoyancy management, and integration as they drove the sub through an obstacle. In addition to on-campus outreach, CUAUV participated in the annual Robotics Day, where we set up an interactive booth at the Engineering Quad, demonstrating our architecture, power distribution circuitry, and custom pressure-vessel enclosures. We shared information about our battery management system and servo-based manipulator assembly. To further broaden our impact, the team organized a workshop for local Boy Scout troops, hosting them in our facilities for a hands-on introduction to STEM. CUAUV also partnered with Cornell Splash, as is CUAUV tradition, to host a hands-on session for local high schoolers, where team members broke down the basics of electronics and mechanical design. Through circuit-building exercises and simple gearbox demonstrations, participants discovered how sensors, actuators, and structural components come together to form complex robotic systems. This event not only enriched the students' STEM education but also strengthened ties between CUAUV and the Ithaca community, inspiring many to pursue engineering pathways. Feedback surveys from Drive the Sub, Robotics Day, the Boy Scout workshop, and the Splash session all revealed strong enthusiasm and a clearer sense of marine robotics challenges—and left attendees eager for our next outreach endeavor. CUAUV also set up an interactive booth at Code Red Robotics hosted by Ithaca High School, where team members demonstrated our vehicle's navigation and control systems to enthusiastic students and mentors. Visitors had the chance to explore our sensor suite and buoyancy mechanisms, gaining insight into the challenges of marine robotics design. The event fostered lively discussions about collaboration opportunities.

*Note: Not able to add more than 1 image below, but they are in our competition video and on our website.