Mehmet Emin Meydanoğlu

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Experience

ITU AUV Team **Istanbul, Turkiye**

Co-Lead of Autonomous Software *Sep 2025 – Present*

Autonomous Software Team Fellow *Sep 2024 – Sep 2025*

Leading and contributing to the development of the **autonomous systems stack** for the team's autonomous underwater vehicles (AUVs), built for both academic research and international competitions. **Achieved 3rd place worldwide at RoboSub 2025**, the world's most popular student AUV competition.

All work is open-source at github.com/itu-auv/auv-software.

Primary focus on high-level autonomous planning and its intersection with perception. Projects and experiments on;

- Learning-based navigation and manipulation policies, learning from **imitation-reinforcement** where vision Transformers (DINO) are used for world feature extraction (visual embeddings are observations).
- Visual SLAM, sensor based localization with sensor fusion, implemented a custom Pure Pursuit like controller for 6-DOF trajectory tracking, 6-DOF feedback control, YOLO perception pipeline, RGB-D object detection.

Keywords: Autonomous system design, Imitation Learning, Reinforcement Learning, Computer Vision (ViT, DINO, YOLO, DepthAnything), autonomous planning, state estimation (EKF), control theory, SLAM, simulation, ROS, Python, C/C++, Docker, Git.

Education

Istanbul Technical University **Istanbul, Turkiye**

B.S. Mathematical Engineering *(GPA: 3.41/4.00)* *Sept 2023 – Present*

Extracurriculars

Philosophy and science communication/ content creation: Running a YouTube channel producing content on numerous fields of analytical philosophy; philosophy of **mind** (consciousness, AI, intelligence), **life** (mainly Stoicism), **science** (mainly physics), **religion**. Trying to simplify complex concepts for general audience.

Sports: Tennis, Running, Cycling.