



Batuhan Ozer

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HIGHLIGHTS

Career Highlights

- **Software Engineering Coordinator @ LA2 Dynamics** – leading software & hardware integration for quadruped robotics
- **Founder of Poly Design 3D** – developed & released 10+ commercial plugins (C++, Python, Maxscript), used globally
- **B.Sc. Control & Automation Engineering @ ITU (GPA 3.26/4.00)** – Thesis: *Modeling, Control & Navigation of Underwater Vehicles*

Competitions:

- **RoboSub 2025 – 3rd Place** (international underwater robotics competition, 54 teams, Irvine, USA)
- **Roboboat 2024 – 1st Place** (autonomous surface vehicles, Sarasota, USA)
- **European Robotics League RAMI 2023 – 2nd Place & Best Presentation Award** (underwater robotics, La Spezia, Italy)
- **Singapore AUV Challenge 2022 – 1st Place** (autonomous underwater robotics, 42 teams from 19 countries, Dover, SG)

WORK EXPERIENCE

LA2 Dynamics İstanbul, Türkiye

Software Engineering Coordinator

01/04/2024 – Current

(Full time)

I lead the end-to-end development of our quadruped robot “**Sarbot**”, coordinating both hardware and software domains. My responsibilities include:

- **System & Hardware Architecture** – Planned and coordinated hardware design, selected critical electronic components, and oversaw the design of custom embedded control boards.
- **Embedded Systems** – Developed and supervised STM32-based firmware for high-frequency motor control and real-time communication (UDP, RS485, I2C, CAN, SPI).
- **Advanced Control** – Implemented nonlinear MPC for locomotion control and integrated reinforcement learning policies trained in **NVIDIA Isaac Lab** onto the real robot.
- **Testing & Validation** – Designed structured test frameworks, bridging hardware-in-the-loop and simulation-to-reality experiments.
- **Infrastructure & Coordination** – Established internal GitLab, CI/CD pipelines, and documentation systems, ensuring scalable and reliable development.

Through this role, I bridge **hardware, embedded systems, and advanced control algorithms**, ensuring the reliability, performance, and innovation of our quadruped robotics platform.

Poly Design 3D İstanbul, Türkiye

Software Developer

01/01/2019 – Current

(Founder)

Founded and grew a software business creating **10+ commercial plugins** for 3D modeling applications (Autodesk 3ds Max, Blender). Developed tools in **C++, Python, and Maxscript** that are **used globally by 3D artists and studios**, improving workflow efficiency and creative productivity. Experience spans from **product design and development** to **release and customer adoption**, demonstrating entrepreneurial and technical expertise.

ITU AUV Team İstanbul, Türkiye

Team Mentor

15/10/2021 – Current

Team Mentor (Sep 2024 - Present)

Provide mentorship and strategic guidance to ITU AUV Team, supporting knowledge transfer, team coordination, and long-term project strategy. Under my mentorship, the team achieved **3rd place at RoboSub 2025 (Irvine, USA)** among 54 international teams.

Team Captain | Technical Team Leader (Mar 2023 – Sep 2024)

Led 30+ members across electronics, software, and mechanical teams to deliver advanced AUV systems. Oversaw project planning, technical execution, and competition strategy. Achievements:

- **2nd place & Best Presentation Award** at European Robotics League RAMI 2023 (La Spezia, Italy).
- **1st place** at Roboboat 2024 (Sarasota, USA).

Software Team Leader (Feb 2022 – Mar 2023)

Directed software development of AUV systems with a focus on vision, control, localization, and mapping. Drove innovation in autonomy and navigation, leading to **1st place at Singapore AUV Challenge 2022** (42 teams from 19 countries).

Software Developer (Oct 2021 – Feb 2022)

Contributed to early development of AUV navigation and vision software, laying the foundation for robust control and mapping systems.

LA2 Dynamics İstanbul, Türkiye

Software Engineer

16/10/2023 – 01/04/2024

(Full time)

Contributed to the quadruped robot project with a focus on **embedded systems and locomotion control algorithms**. Implemented and refined control and navigation systems, enhancing robot performance and reliability. Gained hands-on experience in **system design and integration** within a robotics startup environment.

Turkish Aerospace Ankara, Türkiye

Software Engineer

28/07/2023 – 25/08/2023

(Internship)

Worked in the **control and software department** for the Hürjet training jet. Developed a **virtual joystick application** for the flight simulator using C++ and Qt. Gained exposure to **complex aerospace software architectures**, strengthening skills in C++ development and system-level design.

LA2 Dynamics İstanbul, Türkiye

Robotics Engineer

01/02/2023 – 28/07/2023

(Part time)

Joined the founding team of the quadruped robotics project. Contributed to **hardware and software selection, system design**, and development of both **embedded firmware** and **high-level locomotion software**. Built strong practical skills in robotics engineering, working on a robot project from the ground up.

ITU Robotics Laboratory İstanbul, Türkiye

Education Researcher

15/10/2022 – 01/02/2023

(Part time)

At the ITU Robotics Laboratory, conducted research on **quadruped locomotion**, testing walking algorithms from literature on real robots. Contributed to the advancement of robotic locomotion and strengthened expertise in **control systems and their practical applications**.

SOGA Design Office İstanbul, Türkiye

Software Developer

01/07/2018 – 15/08/2018

(Full Time)

Developed a requested **3ds Max plugin (Maxscript)** for an international architectural firm. Also contributed to **3D modeling and interior design tasks**, enhancing skills in computer graphics and design software.

EDUCATION AND TRAINING

01/09/2018 – 05/07/2024 Istanbul, Türkiye

Bachelor's Degree Istanbul Technical University

Website <https://www.itu.edu.tr/> | **Field of study** Control & Automation Engineering | **Final grade** 3.26 | **Thesis** Modeling, Control and Navigation of Underwater Vehicles

01/09/2014 – 10/06/2018 İstanbul, Türkiye

High School Degree Private Bilfen Uskudar Science High School

Website <https://bilfen.com/en/high-school/our-schools/bilfen-uskudar-science-high-school>

LANGUAGE SKILLS

MOTHER TONGUE(S): Turkish

Other language(s):

English

Listening C1

Spoken production C1

Reading C1

Spoken interaction C1

Writing C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

PROGRAMMING LANGUAGES

C, C++ | Python | C# | Maxscript | Javascript, HTML, CSS

PROGRAMS

3dsMax | Blender | Substance | Unity | Photoshop | NVIDIA Isaac Sim

COMPUTER GRAPHICS / COMPUTER VISION

Point Cloud Processing | Meshing | Raytracing | OpenGL | Cuda | Yolo | Object Detection, Tracking | OpenCV | Machine Learning | Visual Odometry | Stereo Vision

ROBOTICS

ROS(robot operating system) | State Estimation, Sensor Fusion, Kalman Filtering | Git | CI/CD | Docker | Linux | Qt | Control System Design | MPC | UART, SPI, Ethernet UDP/TCP, RS485 | Microcontrollers | PPO | sim2real | Isaac Lab | Isaac Gym | Reinforcement learning

HONOURS AND AWARDS

11/02/2024 Robonation INC.

Roboat Competition First Place Award

Sarasota, Florida, USA

As part of the ITU Autobee Team, we achieved first place in the prestigious Roboat Competition held in Sarasota, Florida. Our team's innovative design and exceptional performance in the competition demonstrated our technical prowess and teamwork, earning us top honors among international competitors.

Link <https://roboboat.org/2024/02/12/roboboat-2024-final-standings/>

24/09/2022 IEEE OES

Singapore AUV Challenge First Place Award

Dover, Singapore

Our ITU AUV Team achieved first place at the Singapore AUV Challenge, competing against 42 teams from 19 different countries. This victory showcased our team's exceptional skills in underwater robotics and our ability to outperform a diverse and highly competitive field.

Link <https://sauvc.org/2022/>

21/07/2023 NATO STO Centre for Maritime Research and Experimentation (CMRE)

European Robotics League RAMI Competition Second Place Award & Best Presentation Award

La Spezia, Italy

Our ITU AUV Team secured Second Place and the Best Presentation Award at the European Robotics League RAMI Competition in La Spezia, Italy. This recognition highlighted our advanced technical solutions and our ability to effectively communicate our research and innovations to a distinguished panel of judges.

Link <https://metricsproject.eu/inspection-maintenance/rami-2nd-field-campaign-marine/>

18/08/2025 Robonation INC.

RoboSub Competition Third Place Award

Irvine, California, USA

As part of the ITU AUV Team, we secured 3rd place among 54 international teams at the prestigious RoboSub Competition in Irvine, California. This achievement underscored our technical expertise and strong teamwork in one of the world's most challenging student robotics competitions.

Link <https://robosub.org/2025/08/18/robosub-2025-final-standings/>