

Norway, Trondheim
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Emir Cem Gezer

Ph.D. Candidate

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I am a self-motivated individual who enjoys solving problems with computers. I gained experience in various fields of robotics starting in the early years of my college education. I enjoy working with and contributing to open source projects. I try to stay fresh by collaborating with artists to help them construct art installations. I can also solve a Rubik's cube in under a minute.

SKILLS

Tools and Languages	C++, Python, ROS, MOOS-IvP, Sys-Admin, GNU/Linux
Research Interests	Marine Vehicle Control and Guidance, Marine Autonomy, Safety Critical Controllers, Risk Awareness,
Communication	English, Turkish

TECHNICAL EXPERIENCE

Ph. D. Candidate / Safety & Assurance of Autonomous Ships **January 2023 — Now**
NTNU: Norwegian University of Science and Technology *Norway, Trondheim*

- Working on a Ph.D. study titled *Risk-Aware and Safeguarding Control systems for autonomous ships*.
- Teaching Assistant for the course TMR4243 - Marine Control Systems II in NTNU-IMT.

Graduate Research Assistant / AUV Control and Guidance **September 2020 — December 2022**
University of Rhode Island *United States of America, RI*

- Designed and developed a generic software framework for the control and guidance of marine vehicles. The framework allows for operation mode change on the fly.
- Designed and developed software and electronic stack for an AUV for seabed mapping. Developed and tested a new method for interferometric side-scan imaging using DBSCAN.
- Worked as a teaching assistant for an undergraduate course. Prepare robot platforms to be course materials.

Contracted Researcher / Reinforcement Learning Aided Autonomy **October 2018 — May 2019**
Roketsan *Turkey, Ankara*

- Designed and developed a repeatable simulation environment for reinforcement learning research.
- Conducted ROS training for the research group.

Software Developer / Mobile Robot Development **June 2017 — September 2020**
Milvus Robotics *Turkey, Ankara*

- Designed and developed various mission critical software for indoor logistic mobile robot platforms; Network manager, virtualization, online support server, VPN infrastructure, automation for setup and diagnosis, and embedded software for chargers.
- Lead interns on projects related to logging and alerting.
- Conducted intensive test and deployment tasks in the field.

Field Support Technician / Mobile Robot Development **April 2017 — May 2017**
Atlas Robotics *Turkey, Izmir*

- Conducted calibration and test for the robot platform that the company was developing at the time.

Software Developer Intern / Cyber Security Alerting System **July 2016 — August 2016**
Innova BT *Turkey, Ankara*

- Learn about Java development technologies
- Gained insights on cybersecurity

Undergraduate Research Assistant / Swarm Robotics Research **October 2014 — June 2019**
Ankara University Artificial Intelligence and Image Processing Laboratory *Ankara, Turkey*

- Developed a low cost mobile robotics research platform with ROS navigation stack.
- Contributed swarm robotics research and developed a group formation algorithm.

EDUCATION

Master of Science in Ocean Engineering, *University of Rhode Island*, GPA: 3.71/4 December 2022
Bachelor of Science in Computer Engineering, *Ankara University*, GPA: 3.17/4 June 2019

PUBLICATIONS

Symbolic Control for Autonomous Docking of Marine Surface Vessels

Elizabeth Dietrich, Emir Cem Gezer, Bingzhuo Zhong, Murat Arcak, Majid Zamani, Roger Skjetne, Asgeir Johan Sørensen
2025, Preprint

Maneuvering-based Dynamic Thrust Allocation for Fully-Actuated Vessels

Emir Cem Gezer, Roger Skjetne
IFAC-CAMS 2024, 15th IFAC Conference on Control Applications in Marine Systems, Robotics and Vehicles: Blacksburg, VA, USA

A Generic Guidance Navigation and Control Framework For Marine Vehicles

Emir Cem Gezer
University of Rhode Island 2022, Master's Thesis, USA

Working toward the development of a generic marine vehicle framework: ROS-MVP

Emir Cem Gezer; Mingxi Zhou; Lin Zhao; William McConnell
OCEANS 2022, Hampton Roads

Acrobatic Low-cost Portable Hybrid AUV (ALPHA): System Design and Preliminary Results

Mingxi Zhou, Emir Cem Gezer, William McConnell, Chengzhi Yuan
OCEANS 2022, Hampton Roads

Towards seafloor mapping using an affordable micro-UUV

Emir Cem Gezer, Lin Zhao, Jordan Beason, Mingxi Zhou
OCEANS 2021: San Diego-Porto

A Novel Framework for Multi-Agent Systems Using a Decentralized Strategy

Mehmet Serdar Güzel, Vahid Babaei Ajabshir, Panus Nattharith, Emir Cem Gezer, Serhat Can
Cambridge Core - Robotica 04 December 2018

An Adaptive Pattern Formation Approach for Swarm Robots

Mehmet Serdar Güzel, Emir Cem Gezer, Vahid Babaei Ajabshir, Erkan Bostancı
2017 4th International Conference on Electrical and Electronic Engineering (ICEEE)

ART WORKS

Endophasia / Technical Assistance

Endophasia is a multimedia performance art piece that examines the experience of an individual who has developed aphasia following a stroke.

2024

Pinboard / Artist

Togerher with Rafael Attias, we build a interactive multimedia installation where a pinboard was a source for generative audio/visual experience.

August 2022

The Audible Landscape / Artist

In collaboration with the Rhode Island School of Design, I build an interactive art installation where visitors can interact with a so-called ocean floor and change the music generated by it.

March 2022

Fareler theather company / Musician

Composed a soundtrack for the theater play "The Glass Menagerie" by Tennessee Williams.

2017

Spontane Band / Musician

Played with an R&B band in various venues in Ankara, Turkey.

February 2017 — October 2018

Tele-Voice-Typer / Hacker

Built an art installation where the speech is analyzed and printed.

February 2019

VOLUNTARY WORKS

Introduction to Linux System Programming / Instructor

Academic Informatics Conference Training Sessions / Specialized accelerated training for general public

2020

Introduction to Robotics with Gazebo and ROS / Instructor

Academic Informatics Conference Training Sessions / Specialized accelerated training for general public

2016, 2018, 2019