

BURHAN KARAHASAN

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OBJECTIVE

I am always eager to learn and apply my knowledge and skills to challenging and innovative projects in the aerospace and medical fields. My ultimate goal is to pursue a PhD and contribute to pioneering research and development in robotics.

EDUCATION

Koc University, Istanbul. CGPA : 3.95 2018 – 2024
Bachelor of Science in Mechanical Engineering (*Third Rank*)
Bachelor of Science in Electrical and Electronics Engineering (*Double Major*)

PUBLICATIONS

Munam Arshad, Eda Guven, **Burhan Karahasan**, Ismail Lazoglu. “A novel real-time wireless sensor integration for enhancing positive pressure system operation in single limb passive vented circuit”. *Biomedical Signal Processing and Control* 85 (2023).

TECHNICAL SKILLS

Programming	MATLAB, Python, Java/JavaFX, C/C++, VHDL, Visual Basic.
Platforms	Siemens NX, Solidworks, Fusion 360, Ansys Mechanics, Ansys Fluent.
Miscellaneous	Robotics, Machine Learning/Deep Learning, Computer Vision, Finite Element Analysis, Computer Aided Design/Manufacturing, Numerical Methods, Generative Design, L ^A T _E X.
Languages	English (TOEFL iBT:100), Chinese (fundamental)

ACHIEVEMENTS

Full merit scholarship recipient for the undergraduate education in Koc University.
Received Vehbi Koc Honor awards for 6 semesters.
Deloitte Education Foundation (DEVAK) Scholarship recipient.

WORK EXPERIENCE

Koc University	2024 – Present
<i>Robotics Researcher</i>	<i>Istanbul, Türkiye</i>

- Conducting research on medical milli/microrobotic devices.

Koc University	2021 – 2024
<i>Undergraduate Research Assistant</i>	<i>Istanbul, Türkiye</i>

- Conducted research on a robotic guided surgery project, working on robotic manipulator algorithm design for path optimization in minimally invasive surgical brain operations, generating surgical paths avoiding any incisions through critical zones or brain vessels.
- Conducted research on a mechanical ventilation device and published a paper, worked on the serial communication of several sensors & devices, optimized the system and improved the sampling rate of sensors 20 times.

Ubicro	Aug. 2022 – Dec. 2022
<i>Prototyping and Testing Engineer</i>	<i>Istanbul, Türkiye</i>

- Implemented electronic controllers on aeroponic farming machines and assembled prototypes.

DeltaV Space Technologies	Aug. 2022 – Sep. 2022
<i>Guidance, Navigation and Control Intern</i>	<i>Istanbul, Türkiye</i>

- Worked on flight data storage using STM32 microcontroller devices.
- Reported several research about deep learning applications on rocket systems, hybrid altimeter systems in supersonic aircrafts and calibration & characterization of IMU sensors & noise effects.

Turkish Aerospace Industries

Integrated Logistics Support Intern

June 2021 – July 2021

Ankara, Türkiye

- Worked with the equip that conducts tests on unmanned aerial vehicle engines and prepares the repair and maintenance manuals for post-sales in integrated logistics support department.
- Coded a form application that helps to filter the maintenance manuals.

TEAM PROJECTS

Koc University Autonomous Drone Team (KUADRONE)

Team Leader

2020 – 2021

Istanbul, Türkiye

- Competed in TUBITAK's 5th International Unmanned Aerial Vehicle Competition.
- Organized the team hierarchy, and the documentation of the project.
- Devised the mission planning, thrust calculations and electronic circuit design.

RELEVANT COURSES

Robotics

Computer vision with deep learning

Introduction to machine learning

Linear systems theory

TEACHING EXPERIENCE

Provided academic peer support to students in MATH106: Calculus I, MECH201: Statics and Mechanics, MECH206: Dynamics courses.