BURHAN KARAHASAN

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OBJECTIVE

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

EDUCATION

Koc University, Istanbul. 2024 – Present
Master's of Science in Mechanical Engineering
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, LaTeX.
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 4 semesters.
Deloitte Education Foundation (DEVAK) Scholarship recipient.

WORK EXPERIENCE

Koc University 2021 – 2024
Undergraduate Research Assistant *Istanbul, Türkiye*

- 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
Prototyping and Testing Engineer *Istanbul, Türkiye*

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

DeltaV Space Technologies Aug. 2022 – Sep. 2022
Guidance, Navigation and Control Intern *Istanbul, Türkiye*

- 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 June 2021 – July 2021
Integrated Logistics Support Intern *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) 2020 – 2021
Team Leader *Istanbul, Türkiye*

· Competed in TUBITAK's 5^{th} 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.