

# BERKE ATASEVEN

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Portfolio: <https://bataseven.github.io> GitHub: <https://github.com/bataseven>

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Universitesi, 34450 Sarıyer/Istanbul

A passionate, hands-on mechanical engineer with a keen interest in interdisciplinary engineering projects

## EDUCATION

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<b>Koç University</b>	<b>MSc Mechanical Engineering</b>	<i>Sep 2020 – March 2023</i>
<ul style="list-style-type: none"><li>Area Courses: Deep Learning / Computer Vision / Biomedical Signal Processing</li><li>Overall GPA: 3.67</li></ul>		
<b>Koç University</b>	<b>BSc Mechanical Engineering</b>	<i>Sep 2015 – June 2020</i>
<ul style="list-style-type: none"><li>Area Courses: Robotics / Vibration Theory / Rocket Propulsion / Machine Design</li><li>Senior Year Project: TELE-BOT, teleoperated mobile robot with a manipulator. Was selected as the best engineering project class of 2019-2020</li></ul>		

## EXPERIENCE

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<i>Design Engineer</i>	<b>TUSAS Engine Industries (General Electric Aerospace)</b>	<i>March 2023 - Present</i>
<ul style="list-style-type: none"><li>TEI is a joint venture company of General Electric and the leading aviation engines brand in Turkey</li><li>Worked as a contractor for GE Aerospace</li><li>Root cause analysis of the problems occurring in the engines from the field</li><li>Integration of new ideas into existing gas turbine engines</li><li>Life-cycle engineering of the commercial, operational engines</li><li>Conflict resolution with manufacturers</li></ul>		
<i>Co-Founder</i>	<b>Tedavem Bilişim ve Elektronik Sistemleri</b>	<i>July 2021 – June 2023</i>
<ul style="list-style-type: none"><li>Start-up funded by The Scientific and Technological Research Council of Turkey, TÜBİTAK</li><li>Developing IOT-Based Sensor Systems for remote patient tracking in hospitals</li><li>Responsible for mechanical design / machine learning / system integration</li></ul>		
<i>Research Assistant</i>	<b>Robotics and Mechatronics Laboratory</b>	<i>September 2020 – Present</i>
<ul style="list-style-type: none"><li>Developed a haptic interface capable of giving force and weight feedback</li><li>Robotic simulation using Gazebo and ROS</li><li>Implementing motion planning algorithms</li></ul>		
<i>R&amp;D Engineer Summer Intern</i>	<b>Hattat Traktör</b>	<i>June 2018 – August 2018</i>
<ul style="list-style-type: none"><li>CAD Design of a rollover protection structure for various vehicles</li><li>Finite element analysis of specific vehicle components</li></ul>		

## PROJECTS

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- A hand-held haptic device capable of giving force and stretch feedback to users in virtual environments. Designed and built the device. Evaluated the performance of the device through user studies.  
**(Haptics, Control Systems, CAD, Unity, Python, C++)**
  - A mobile robot with a robotic manipulator capable of autonomous object tracking won the Best Engineering Project Award for the 2019 – 2020 academic year. [V1](#) – [V2](#)  
**(Computer Vision, Autonomous Driving, Hardware Design, PCB Design, Unity, C++)**
  - CANSAT Competition: Designed and manufactured a delta wing payload with asymmetric wings. The payload can gather atmospheric information as it descends on a spiral trajectory.  
**(MATLAB, Simulink, Hardware Design, Sensor Integration)**
  - TUBITAK Autonomous UAV Competition: Coded and tuned the flight control system from scratch. Devised the ground control software to track and autonomously command the quadcopter.  
**(Simulink, Control Systems, Autonomous Control, Java, C++)**
  - Developed a prototype to notify nurses in case of venous needle dislodgement of patients. Implemented machine learning techniques in a practical use-case scenario. Achieved over 89% detection rate.  
**(Machine Learning, Convolutional Neural Networks, NumPy, Torch)**
  - [A Vibrotactile Hand Interface for VR](#) tracking won the Best Engineering Project Award for the 2018 – 2019 academic year.  
**(Computer Vision, Hand-Tracking, C++, 3D printing, Hardware Design)**

## **PUBLICATIONS**

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- Ataseven B., Madani A., et al. [“Physical Activity Recognition using Deep Transfer Learning with Convolutional Neural Networks,” IEEE CyberSciTech/PICom/DASC/CBDCCom 2022](#)
- Başdoğan C., Ataseven B., Srinivasan M. A., [“Perception of Soft Objects in Virtual Environments Under Conflicting Visual and Haptic Cues”](#), Will be published soon.

## **PATENTS**

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- **Nasogastric Tube Design with Self-Induced Momentum**  
(TR 2022/001302)

A new nasogastric tube design aims to minimize the skill the medical staff requires for nasogastric tube insertion.

- **Flexible Acoustic Sensor Feedback System Monitoring PEG/ PEJ/Drainage Dislodgements in Patients**  
(TR 2021/015887)

A flexible acoustic sensor system that detects and reports the PEG/ PEJ/ medical drainage dislodgments in patients.

- [A Device for Detection of Vascular Access Dislodgements and Notification of the Authorized Person](#)  
(WO 2022/071910) - (TR 2020/15476)

A sensor system to detect and report venous dislodgments in hospital patients.