BURAK AKSOY - DRAFT

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Principal Interests

TODO

Education

Rensselaer Polytechnic Institute, Troy, NY — *August 2018 - Present*
Ph.D. in Computer Systems Engineering, Advisor: John T. Wen — GPA: 3.69/4.0

Sabanci University, Istanbul, Turkey — *September 2016 - June 2018*
B.Sc. in Computer Science and Engineering — GPA: 3.90/4.0

Sabanci University, Istanbul, Turkey — *September 2013 - June 2018*
B.Sc. in Mechatronics Engineering — GPA: 3.90/4.0

Research Projects

Safe Robotic Handling of Energetic Materials — *Troy, NY*
Graduate Research Assistant, PIs: John T. Wen, Glenn Saunders — December 2021 - Present

TODO.

Swarm Robotics for Large Structure Manufacturing — *Troy, NY*
Graduate Research Assistant, PIs: John T. Wen, Glenn Saunders — May - August 2021

TODO.

Open Source Teach Pendant Programming Environment — *Troy, NY*
Graduate Research Assistant, PI: John T. Wen — December 2019 - May 2021

TODO.

Robot Assistance with Activities of Daily Living for Persons with C4-C7 Spinal Cord Injury — *Troy, NY*
Graduate Research Assistant, PI: John T. Wen — May - October 2019

TODO.

Vision Based Obstacle Detection and Avoidance for Autonomous Vehicles — *Istanbul, Turkey*
Graduation Project, Supervisor: Mustafa Unel — September 2017 - June 2018

TODO. In this project, it is aimed to design a 360-degree obstacle detection and avoidance system using the data obtained from cameras located on autonomous heavy vehicles such as trailer trucks, straight-body trucks and lorries. To use as few number of cameras as possible, in addition to perspective cameras large field of view fish eye cameras are also utilized. State of the art object detection and classification algorithms are used to detect the obstacles around the vehicle using captured images and classify the objects in real time. To quantify detection and classification performance in realistic scenarios, algorithms are implemented in Truck Maker Simulation environment

CAESAR: Cellularly-Accessible, Expressive, Semi-Autonomous Robot — *New York, NY*
Summer Research Intern, Supervisor: Vikram Kapila — June - August 2017

TODO. Researcher on Celluar-Accessible, Expressive, Semi-Autonomous Robot (CAESAR), a social mobile humanoid robot that interacts with users through non-verbal, emotional expressions, and has 30-DOFs which include it's mobile base.

Robotics Hardware Experience

Fixed Base Robots

- Sawyer, *7 DoF (Rethink Robotics)*,
- JACO Gen2, *6 DoF Curved Wrist (Kinova Robotics)*,
- UR5e, *6 DoF (Universal Robotics)*,
- IRB 1200, *6 DoF (ABB)*

Mobile Robots
- Husky, *Skid-steered TODO (Clearpath Robotics)*,
- Ridgeback, *Omnidirectional (Clearpath Robotics)*,
- TurtleBot3 Waffle, *TODO (Robotis)*.
- Duckiebot DB17, DB18, *TODO (Duckietown Foundation)*,
- OARbot, *Omnidirectional (RPI custom made)*,

Software Skills

Robotics Middleware
- ROS, *Advanced*,
- RobotRaconteur, *Advanced*

Languages TODO Python

Awards & Honors

Ranked 1st in Mechatronics Engineering 2018 Class *June 2018*
awarded by Sabanci University

Dean's High Honor Certificate *2014 - 2018*
awarded by Sabanci University

Full Tuition Waiver and Stipend *2013 - 2018*
awarded by Sabanci University

Turkish National University Entrance Exam *June 2013*
Ranked 917th amongst 1.9 million candidates

Finalist at International Physics Olympiad National Team Selection *May 2013*
by TUBITAK (The Scientific and Technological Research Council of Turkey)

Finalist at High School Students Research Projects Competition, Physics *May 2013*
by TUBITAK (The Scientific and Technological Research Council of Turkey)

Finalist at High School Students Energy Efficiency Projects Competition *May 2012*
by Turkey Ministry of Energy

Teaching Experience

Teaching Assistant, Rensselaer Polytechnic Institute Troy, NY
ECSE 6470: Robotics I *Fall 2021*

Teaching Assistant, Rensselaer Polytechnic Institute Troy, NY
ECSE 6470: Robotics I *Fall 2019*

Teaching Assistant, Rensselaer Polytechnic Institute Troy, NY
ENGR 2350: Embedded Control *Spring 2019*

Teaching Assistant, Rensselaer Polytechnic Institute Troy, NY
ECSE 2010: Electric Circuits *Spring 2019*

Teaching Assistant, Rensselaer Polytechnic Institute Troy, NY
ENGR 2350: Embedded Control *Fall 2018*

Learning Assistant, Sabanci University Istanbul, Turkey
MATH 101: Calculus I *Fall 2016*