

OZGUR ORUN

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EDUCATION

Vanderbilt University, Nashville, TN – Bachelor of Engineering

August 2018 – May 2022

- **Major:** Mechanical Engineering | **Minor:** Computer Science
- **Coursework:** Robotics, Mechatronics, Heat Transfer, Fluid Mechanics, Thermodynamics, System Dynamics, Machine Analysis and Design, Circuits, Programming Design and Data Structures, Intermediate Software Design

TECHNICAL SKILLS

- **Programming:** C++, Java, LabView, MATLAB, Arduino
- **Design & Manufacturing:** Creo Parametric, SolidWorks, Lathe, Band Saw, Milling, 3D Printing
- **Languages:** English (fluent), French (advanced), Turkish (native)

PROFESSIONAL EXPERIENCE

Aerospace Design Lab, Nashville, TN – Vehicle Engineer

August 2019 – Present

- Designing, manufacturing, and testing a rocket capable of autonomously locating all parts of the launch vehicle upon landing by using an aerial image of the launch site
- Studied novel ways of designing rocket-flyable payloads that solve major challenges in space exploration and energy conversion

Laser Diagnostics of Combustion Lab, Nashville, TN – Researcher

August 2020 – July 2021

- Studied chemical reactions and pollutant generation in cool flames that simulate combustion in novel and sustainable homogeneous charged compression ignition systems
- Performed experiments using a tubular burner on measuring chemical species and temperature in laminar and turbulent premixed methane and hydrogen flames with laser-induced Raman scattering

Advanced Robotics & Control Lab, Nashville, TN – Researcher

August 2019 – May 2020

- Explored a new method of human augmentation using novel exoskeleton devices driven by a compliant actuator with parallel variable stiffness springs
- Created 3D CAD parts for prototyping and generated assembly drawings for the fabrication of the compliant actuator using SolidWorks

Koc University Summer Research Program, Istanbul, Turkey – Researcher

Summer 2018

- Studied on Mars in-situ resource utilization under the supervision of Prof. Arif Karabeyoglu (Stanford University)
- Prepared a research paper on capturing carbon dioxide and obtaining methane for propulsion in Mars

Kia Motors, Istanbul, Turkey – Mechanics Department Intern

Summer 2017

- Observed a range of performances on maintenance, diagnostic testing, repairs, and inspections of automobiles
- Gained hands-on experience the mechanics and engineering of gasoline and diesel-powered vehicles

LEADERSHIP

Turkish National Sailing Team, Istanbul, Turkey – Professional Sailor

May 2008 – May 2019

- Participated in European Championship in Denmark and World Championship in Italy
- Participated in more than 100 nationwide regattas and won 20 cups overall as a national sailor

Vanderbilt Sailing Club, Nashville, TN – Race Team Captain

August 2018 – Present

- Responsible for the education, practice, and sailing aspects of the club
- Coordinated sailing practices, chalk talks, regattas, and other educational activities

Fluid Dynamics Teaching Assistant & STEM Tutor, Nashville, TN

January 2020 – Present

- Held office hours for students who need help in Fluid Dynamics and various STEM courses
- Created individual course plans, communicated with students, and helped professors with the course planning