






ONUR BURAK ÖZDEMİR

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EDUCATION

Munich Technical University, Munich, Germany

MSc in Applied and Engineering Physics (2022-Present)

Thesis: Temporal Modulation of Synthetic Signals in Mammalian Cells at [Westmeyer Lab](#) & [Simmel Lab](#)

Istanbul Technical University, Istanbul, Turkey

BSc in Engineering Physics (2017-2022)

GPA: 3.54/4.00

Thesis: Smart Ozone Filter Using Reinforcement Learning at [Gali Lab](#)

RESEARCH AND PAPERS

Non-Invasive Glucose Measurement Device

Developing an LED-based portable device to compare the light response of D-glucose in polyacrylamide hydrogel and water in the near-infrared spectral region. [Read Paper Here](#)

PVA-based binary-gel electrolytes

Synthesis and characterization of PVA-based binary-gel electrolytes that incorporate massive ions, focusing on their potential applications in energy storage devices. [Read Paper Here](#)

Gel Electrolyte Supercapacitor Conductive Layer

Investigating the impact of conductive layers on the performance of gel electrolyte-based supercapacitors. [Read Paper Here](#)

Antiviral UV Mask Design

Development and testing of a UVC-LED-based face mask designed to inactivate airborne pathogens. [Read Paper Here](#)

Forensical Document Analysis

Development of a novel 3D scanning-based image processing technique for analyzing the sequence of intersecting lines in questioned document examination. [Read Paper Here](#)

Biomedical 3D Optomechanical Scanner

Determination of permanent facial scars by optomechanical device with 3D scanner.

WORK EXPERIENCE

Student Assistant at Neurobiological Engineering

Oct. 2024 - Present

- Production of AAVs and VLPs for mammalian cell transfection.

Student Assistant at Physics of Synthetic Biological Systems | Jan. 2024 - Oct. 2024

- TEM Imaging of DNA Origami structures. Mammalian cell culture work.

Student Assistant at Neurobiological Engineering

Feb. 2024 - May 2024

- DNA cloning, plasmid assembly and transient gene expression in mammalian cells.

Student Assistant at Helmholtz Munich

Mar. 2023 - Oct. 2023

- Institute of Computational Biology | Theis Lab

Software Engineer at BAYKAR

June 2022 - Aug. 2022

- Created 3D geographical maps from UAV images using Neural Radiance Fields (NeRF)

Turkish National Science Foundation STAR Internship

Dec. 2021-July 2022

- Selected amongst many applicants to work on space-qualified solar cells.
- Developed software for dark I-V measurements of solar cells to monitor their health.

Turkish National Science Foundation Internship

Summer 2021

- Manufactured OLEDs and worked with photovoltaic cells
- Developed OLED I-V analysis software

Computer Skills With Proficiency: Python(and PyTorch), Matlab, Fortran, Latex, C++, Solidworks, Blender, MS Office Programs

VOLUNTEER WORK & INTERESTS

Volunteer Work & Interests

- High School Tutoring & Lab Work (Funded by Ministry of Youth and Sports) | Summer 2021
- Pars Rocketry Team (Propulsion Group, Hybrid Engines) | 2017
- Rowing, Piano, Aikido