

# OĞUZHAN BAŞER

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## EDUCATION

### Boğaziçi University

Bachelor of Science in Electrical & Electronics Engineering. GPA: 3.73/4.00

2017 - 2022

Istanbul, Turkey

## HONORS AWARDS

- Ranked **40th** among 2.2 million students taking the Turkish university entrance exam.
- Awarded with Merit Scholarship of Turkish Presidency.
- High school valedictorian

## PUBLICATIONS

- Baser, O., Yavuz, M., Ugurlu, K., Onat F., and Demirel, B. “**Automatic Detection of the Spike-and-Wave Discharges in Absence Epilepsy for Humans and Rats using Deep Learning**”, *Annals of Biomedical Engineering (Under Review)*
- Ararat, K., Altan, O., Serbest, S., Baser, O., Dumanli, S. (2020, March). **A Biodegradable Implant Antenna Detecting Post-Surgical Infection**. In *2020 14th European Conference on Antennas and Propagation (EuCAP)* (pp. 1-4). IEEE.

## RESEARCH EXPERIENCE

### Bogazici University, BUSIM: Center for Signal and Image Processing

Privacy Preserving Machine Learning for Speech Recognition Systems

*Supervisor: Prof. Murat Saraclar*

Oct 2021 - Present

Istanbul, Turkey

### University of California Irvine, Embedded & Cyber-Physical Systems Laboratory

Machine Learning in Embedded & Cyber-Physical Systems

*Supervisor: Berken Demirel & Prof. Mohammad Abdullah Al-Faruque*

Mar - Sep 2021

Irvine, California, USA

### Bogazici University Antenna Research and Propagation Laboratory

AkIm/SimpliFy-B: Smart Orthopaedic Hip Implant Fighting Antimicrobial Resistant Bacteria

*Supervisor: Prof. Sema Dumanli Partner: Kivanc Ararat*

Jun 2019 - Feb 2020

Istanbul, Turkey

### Bogazici University Antenna Research and Propagation Laboratory

FRagRAnt: Frequency and Radiation Pattern Reconfigurable Antennas

*Supervisor: Prof. Sema Dumanli Partner: Z. Pelin Yildirim*

Feb - Sep 2019

Istanbul, Turkey

## WORK EXPERIENCE

### Machine Learning R&D Engineer at SESTEK

*Tasks:* audio signal processing, speech recognition system design and optimization by utilizing supervised learning models such as Wave-Net, Squeeze-Net, Alex-Net, applying latest research findings to industry, embedded algorithm optimization

Jul - Sep 2020

Istanbul, Turkey

## PROJECTS

### Electric Guitar Amplifier Software

Implementing popular amp sound effects on MATLAB to provide easy to carry and cheap amplifier for guitarists.

Oct 2021 - Present

### Music Genre Prediction/Classification Software

An application utilizing linear pattern recognition models for music genre classification.

Oct 2021 - Dec 2021

### Realization and Evaluation of Communication Systems on Arduino Board

Communication systems with DSB-AM, FM, DTMF, BPSK, 4-PAM, 8-PSK, and 16-QAM were set up. System performances were evaluated against AWGN with different SNRs.

Sep - Dec 2021

## Permittivity Detector Design

Apr - Jun 2019

A MATLAB program was coded to get permittivity values of biological phantoms by iterating algorithm using air/water permittivity and ambient temperature. A probe was made for the vector network analyzer to measure permittivity of liquids.

## VOLUNTEER EXPERIENCE & LEADERSHIP ACTIVITIES

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|---|---------------------|
| • The Research Center on Asylum and Migration<br><i>Mathematics Teacher</i>   | Sep 2021 - Present  |
| • Electrical and Electronics Engineering Department, Bogazici University<br><i>Probability Course, Teaching Assistant</i> | Sep 2021 - Jan 2022 |
| • Electrical and Electronics Student Representative Board, Bogazici University<br><i>Volunteer Ambassador</i>             | Feb 2020 - Present  |
| • Electrical and Electronics Student Representative Board, Bogazici University<br><i>Student Mentor</i>                   | Sep 2019 - Present  |
| • Mithat Alam Film Center, Bogazici University<br><i>Executive Board Member</i>   | Oct 2018 - Present  |
| • Work & Travel Experience, Cottonwood Cove at LasVegas, Nevada, USA<br><i>J1 - Fuel Personnel</i>                        | Jun - Aug 2018      |
| • MECZUP (The Lunatic), Film, Team Tiryaki<br><i>Director, Scriptwriter</i>   | Feb - May 2018      |
| • Scouting and Guiding Federation of Turkey<br><i>Scout</i>   | Apr 2014 - May 2015 |
| • Karaçam Rock Band<br><i>Lead Guitarist</i>  | Feb - Dec 2014      |

## SKILLS, ACTIVITIES INTERESTS

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| • <i>Skills:</i><br>C++, Java, Matlab-Simulink, Python, Tensorflow<br>Artificial Deep Neural Networks, Machine Learning,<br>Keras, OrCAD / PSpice, VHDL, Linux, Arduino,<br>LaTeX, Adobe Photoshop, Adobe Premiere Pro,<br>Adobe Lightroom, Adobe Illustrator. | • <i>Languages:</i><br>Native in Turkish<br>Fluent in English (TOEFL iBT Score: 106/120)<br>Elementary in German   |
| • <i>Interests:</i><br>AI, Network Science, Network Security, Privacy,<br>Digital Signal Processing, Decentralized Computing,<br>Cryptography, Cybersecurity, Crypto-art, Cognitive<br>Science, Philosophy, Renaissance Humanism,<br>Film Making, Photography. | • <i>Other Extracurriculars:</i><br>Fitness, Climbing, WWF, Inzva AI Community,<br>Hiking, Riding Motorcycle, Playing Guitar & Piano,<br>Art and Technology writer of "cizgisizdefter.org" |