

Ugurcan Cakal

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EDUCATION

METU

MS in Electrical and Electronics Engineering

Grad. Jun 2021 | Ankara, Turkey
Natural and Applied Sciences
Cum. GPA: 3.57 / 4.0

METU

BS in Electrical and Electronics Engineering

Grad. Jun 2019 | Ankara, Turkey
Department of Engineering
Cum. GPA: 3.28 / 4.0

EDIRNE S.D. SCIENCE HIGH SCHOOL

Grad. Jun 2013 | Edirne, Turkey
Cum. GPA: 93.10 / 100

COURSES

GRADUATE

Neurocomputers & Deep Learning
Parallel Programming on GPU
Language Processors

UNDERGRADUATE

Machine Learning
Computer Architecture
Microprocessors

SKILLS

PROGRAMMING

Over 50000 lines:

C++ • Python
C • CUDA • LaTeX

Over 10000 lines:

Assembly • Verilog • QT

Over 1000 lines:

Matlab • Java • SQL
R • Swift 3.0 • C-LISP

LANGUAGE

Native: Turkish
Advanced: English

OVERVIEW

Graduate electrical and electronics engineer completing the second year of a master's degree. Passionate about neuromorphic computing and embedded AI.

WORK EXPERIENCE

ATAR LABS | Software Development Intern

Aug 2018 – Sep 2018 | Ankara, Turkey

- I developed a python application that detects port scanning activity using Wireshark for a bigger project aiming to foresee possible cyber-attacks using machine learning.

ARCELIK | Research and Development Intern

Jul 2017 – Sep 2017 | Ankara, Turkey

- I designed and partially developed an iOS application that controls an air conditioner using GPS location information to track the phone and use Bluetooth to connect to the smart household appliance.

RESEARCH

MASTER THESIS | Neuromorphic Computing

Feb 2020 - Present | METU EE, Ankara, Turkey

- I am carrying out a research on computational neural cell assembly structures and their collective decision processes.
- I am building recurrent spiking neural network architectures using **PyTorch** to classify human gestures gathered by a neuromorphic event-based camera **DVS128 Gesture**.

SELECTED PROJECTS

CHASE & TAG ROBOT | Capstone Design Project

Oct 2018 – Jun 2019 | METU EE, Ankara, Turkey

- An autonomous robot that can chase another robot around a closed elliptical path and tag via a proprietary handshake protocol over IEEE 802.11 WLAN standards.
- I designed and developed the handshaking unit by implementing an ad-hoc network which is extending the existing Wi-Fi network of the robot of interest to build a communication channel.
- I designed all unit, integration, and performance tests; I performed experiments and did the required analyzes.
- I wrote conceptual design, critical design review, final implementation reports and a detailed user manual.

CLASSIFICATION FOR DETECTION OF FOD | Machine Learning

Nov 2018 – Jan 2019 | METU EE, Ankara, Turkey

- I built a convolutional neural network having 94% test accuracy using **TensorFlow**, which can classify foreign object debris on the airport pavements as bird, metal, and plastic; supported by **ArgosAI** company.