Utku Noyan

PH.D. STUDENT IN ELECTRICAL & COMPUTER ENGINEERING

University of Maryland, College Park - USA

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Education

University Of Maryland, College Park   *Maryland, United States*

PH.D IN ELECTRICAL & COMPUTER ENGINEERING   *Aug. 2021 - May 2026(Expected)*
- Graduate Teaching Assistant w/ Dean's Fellowship
- GPA 4.0/4.0

Koc University   *Istanbul, Turkey*

B.S. IN ELECTRICAL & ELECTRONICS ENGINEERING - COMPUTER ENGINEERING(DOUBLE MAJOR)   *Sep. 2016 - Jan. 2021*
- Ranked 516st, National University Entrance Examination (top 0.1% in 2.5 million)
- Full-merit scholarship recipient for education with High Honor Award (10 semesters)
- GPA 3.78/4.0

Research Experience

Integrated Biomorphic Information System Lab, Professor Pamela Abshire   *University Of Maryland*

GRADUATE RESEARCH ASSISTANT   *Sep. 2021 -*
- Conference paper on "Deep Neural Network Based Cell Segmentation for Lab-on-CMOS Systems Using Realtime Microscopy" has been accepted to ISCAS 2022.
- Working on a journal paper by extending this work to various supervised, semi-supervised cell tracking on Lab-on-CMOS devices.

Shah Lab, Assistant Professor Sahil Shah   *University Of Maryland*

GRADUATE RESEARCH ASSISTANT   *Sep. 2021 -*
- Submitted a conference paper to 40th IEEE EMBC'22 to present a cost-effective, reliable, and wearable vascular flow monitoring system to compute real-time blood flow using unique electrical bio-impedance hardware measurements.

Wireless Networks Lab, Professor Sinem Coleri   *Koc University, Turkey*

UNDERGRADUATE RESEARCH ASSISTANT   *Sep. 2019 - Jan. 2021*
- Conducted research project on Communication-based Vehicle Localization methods for collision avoidance and platooning.
- Submitted a journal paper to illustrate the potential of VLC-based localization methods in far-reaching real automotive use cases simulation study with acquiring theoretical bounds of the designed novel method through this research effort.

BAYKAR Defence, Software Engineering Department   *Istanbul, Turkey*

ARTIFICIAL INTELLIGENCE INTERN   *June. 2019 - Sep. 2019*
- Developed path planning algorithms that enable UAV to make safe landing using data of elevation, flat land, and zone characteristics that can land.
- Implemented UAV maneuver library by taking into account kinematic properties of aircraft.

ASELSAN INC., Communication Systems Division   *Ankara, Turkey*

COMMUNICATION SYSTEM ENGINEERING INTERN   *June. 2019 - July. 2019*
- Conducted narrow band frequencies using Radio Mobile and on broadband frequencies on Atoll to create city communication coverage map using antennas.
- Designed graph search to provide optimized site connections.

Twin Science Robotics   *Istanbul, Turkey*

RESEARCH & DEVELOPMENT INTERN   *Nov. 2017 - June. 2019*
- Designed PCB layouts of 3 new electronic modules(pulse,delay,piano) on Altium Designer.

Teaching Experience

Mixed Signal VLSI Design   *University of Maryland*

GRADUATE TEACHING ASSISTANT   *Jan. 2022 - May 2022*
- Leading lab sections to design of extensive scale integrated (VLSI) circuits throughout the CAD tools.

Electronic Circuits Design Laboratory

GRADUATE TEACHING ASSISTANT   *Aug. 2021 - Dec. 2021*
- Lead lab sections to analyze and implement the multi-device such as transistors, diodes, operational amplifiers circuits.

Introduction to Programming Course   *Koc University*

UNDERGRADUATE TEACHING ASSISTANT   *Sep. 2018 - January. 2019*
- Prepared homework assignments and conducted programming sections for Java course using Stanford University libraries.

Projects

Design & Analysis Of Neural Spike Detection/Sorting Circuit   *University Of Maryland*

INTEGRATED CIRCUIT DESIGN TERM PROJECT   *Oct. 2021, December 2021*
- Designed a custom VLSI chip that can recognize which neurons are triggered utilizing various analog voltage signals from a neuronal recording device (e.g. neural prosthesis).

Circuit Design Of Energy Efficient In-Memory Computing   *University Of Maryland*

EMBEDDED MACHINE LEARNING TERM PROJECT   *Oct. 2021, December 2021*
- Designed an energy efficient embedded circuit architecture (e.g. SRAM, DRAM, RRAM) and presented its efficiency with a use case of convolutional neural network on MNIST database.

Brain Tumour Segmentation
Koc University

COMPUTER VISION WITH DEEP LEARNING TERM PROJECT, MEDICAL IMAGE ANALYSIS TERM PROJECT

Nov. 2020, May 2020

- Designed improved deep learning model for brain tumour segmentation such as nn-Unet, Vnet with pre- and post-processing steps. Then, to detect' age of tumour Variational Autoencoders is used.

Skills

Programming   Python, JAVA, C/C++, R, VHDL, VLSI, Verilog, React, LaTeX

Tools   Circuit Design(Pspice, Altium Designer, Cadence), Database Management(MongoDB), Communication(ns-3, RadioMobile, Atoll)

Libraries   Pytorch, Tensorflow, sci-kit

EXTRACURRICULAR (LEADERSHIP & SERVICE)

Young Guru Academy
Istanbul, Turkey

VOLUNTEER

Nov. 2017 - August 2021

- Selected YGA Leadership Program as one of fifty volunteers among the fifty thousand high school and university applicants.
- Worked collaboratively with "YGA Dream Partners" consisting of people of science,academicians, and senior executives among whom there are Prof. Aziz Sancar, Prof. Mehmet Toner.
- Worked over 2500+ hours of volunteering on YGA social innovation project of Science to Anatolia which was deemed worthy of Peer Awards for Excellence.
- Went to 10+ different cities of Anatolia and gave 30+ science sessions to children with aim of to give love and enjoy science with children.
- Led the YGA volunteers' team to design Artificial Intelligence STEAM Kits for K12 children in collaboration with FORD company engineers.