

Utku Noyan

PH.D. STUDENT IN ELECTRICAL & COMPUTER ENGINEERING

University of Maryland, College Park - USA

☎ (+1) 240-733-72-40 | ✉ unoyan@umd.edu | 📱 unoyan16 | 🌐 utkunoyan

Education

University Of Maryland, College Park

PH.D IN ELECTRICAL & COMPUTER ENGINEERING

- Graduate Teaching Assistant w/ Dean's Fellowship
- GPA 4.0/4.0

Maryland, United States

Aug. 2021 - May 2026(Expected)

Koc University

B.S. IN ELECTRICAL & ELECTRONICS ENGINEERING - COMPUTER ENGINEERING(DOUBLE MAJOR)

- 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

Istanbul, Turkey

Sep. 2016 - Jan. 2021

Publications

IEEE International Symposium on Circuits & Systems,

- 2022 Deep Neural Network Based Cell Segmentation for Lab-on-CMOS Systems using Realtime Microscopy
N.Renegar, U.Noyan, P.Abshire

Austin, Texas

44th IEEE Engineering in Medicine and Biology Society ,

- 2022 A Proof-of-Concept Real-Time Processing To Characterize Vascular Flow(Submitted)
S.Shah, H.Toreyin, U.Noyan, Y.J.Lee

Glasgow, Scotland

Research Experience

Integrated Biomorphic Information System Lab, Professor Pamela Abshire

University Of Maryland

GRADUATE RESEARCH ASSISTANT

Sep. 2021 -

- Worked on various Deep Neural Network based Cell Segmentation methods for Lab-on-CMOS Systems using realtime microscopy and conference paper has been accepted.
- Now, extending this work on a journal paper by adding instance segmentation, cell tracking method via various supervised, semi-supervised methods to Lab-on-CMOS devices.

Shah Lab, Assistant Professor Sahil Shah

University Of Maryland

GRADUATE RESEARCH ASSISTANT

Sep. 2021 -

- Developing circuits and systems that can efficiently process and analyze biological signals in real-time.
- Working on the IC design of biochemical ISFET array for the Lab-on-Chip applications.
- 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.

Projects

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.

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).

Brain Tumour Segmentation

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

Koc University

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.

Teaching Experience

Mixed Signal VLSI Design

GRADUATE TEACHING ASSISTANT

University of Maryland

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

UNDERGRADUATE TEACHING ASSISTANT

Koc University

Sep. 2018 - January. 2019

- Prepared homework assignments and conducted programming sections for Java course using Stanford University libraries.

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

VOLUNTEER

Istanbul, Turkey

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.