Utku Noyan
Ph.D. Student in Electrical & Computer Engineering
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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

Publications

	IEEE International Symposium on Circuits & Systems,	
2022	Deep Neural Network Based Cell Segmentation for Lab-on-CMOS Systems using Realtime Microscopy	*Austin, Texas*
	N.Renegar, U.Noyan, P.Abshire	
	44th IEEE Engineering in Medicine and Biology Society ,	
2022	A Proof-of-Concept Real-Time Processing To Characterize Vascular Flow	*Glasgow, Scotland*
	S.Shah, H.Toreyin, U.Noyan, Y.J.Lee	

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
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.

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.

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.