MEHMETCAN GOK

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EDUCATION

Northwestern University — September 2022 - Ongoing
Ph.D. in Electrical Engineering — *Evanston, IL*
Advisor: Prof. Michael Honig

Bilkent University — September 2019 - August 2022
M.S. in Electrical and Electronics Engineering — *Ankara, Turkey*
Advisor: Prof. Orhan Arikan

Bilkent University — August 2015 - June 2019
B.S. in Electrical and Electronics Engineering — *Ankara, Turkey*

EMPLOYMENT HISTORY

Huawei Turkey R&D Center — December 2020 - August 2022
Research Engineer — *Istanbul, Turkey*

Developing novel architectures and coding modalities for massive machine type communication (MMTC) systems utilizing signal processing and machine learning techniques, in collaboration with Bilkent University faculty members and graduate students.

Turk Telekom, Inc. — October 2019 - December 2020
Research Engineer — *Ankara, Turkey*

Worked on AI-Enabled Joint Source Channel Coding algorithms for MMTC applications.

Aselsan, Inc. — June 2018 - July 2018
Intern — *Ankara, Turkey*

Worked under Electronic Design Group (Digital Board Design) at Akyurt facility, designed printed circuit boards (PCB) and programmed microcontrollers.

Teknik Grup, Ltd. — June 2017 - August 2017
Intern — *Ankara, Turkey*

Worked on real time insect detection and classification algorithms for automated IoT disinfection devices on smart farms and license plate detection and recognition for smart parking systems.

PUBLICATIONS

- E.B. Verdi, **M. Gok**, D. D. Mulazimoglu, M. B. Terzi, A. G. Kaya, S. Erol, and O. Isik et al. *"Deep learning-based hybrid clinical decision support system algorithm for COVID-19 diagnosis via PCR graphics and Thorax CT images, preliminary data."* European Respiratory Journal, vol. 60, 2022.
- M. Kalfa, S. A. Yetim, A. Atalik, **M. Gok**, Y. Ge, R. Li, W. Tong, T. M. Duman, and O. Arikan. *"Reliable Extraction of Semantic Information and Rate of Innovation Estimation for Graph Signals."* IEEE Journal on Selected Areas in Communications, vol. 41, no 1, 119-140, 2022.

- M. Kalfa, **M. Gok**, A. Atalik, B. Tegin, T. M. Duman, and O. Arikan. *"Towards Goal-oriented Semantic Signal Processing: Applications and Future Challenges."* Digital Signal Processing, vol. 119, 103134, 2021.

TEACHING ASSISTANT

EEE 361: Linear Algebra in Data Analysis and Machine Learning *Spring 2022*
EEE 211: Analog Electronics *Fall 2021*
EEE 493/494: Industrial Design Senior Project *Fall 2019 - Spring 2021*

SELECTED PROJECTS

Deep Learning Aided Decision Support System for Covid-19 Diagnosis *(TensorFlow)*
Creation of dataset from Thorax CT DICOM files, design and implementation of deep learning model for three-way classification of CT images, RT-PCR sequence modeling for binary classification and hybrid model with both modalities, collaborated with Ankara University Faculty of Medicine.

Detection and 2D-Mapping of Chemicals using MWIR Laser *(MATLAB, LabView)*
Design and implementation of laboratory chemical scanner prototype utilizing middle wavelength infrared (MWIR) laser, as part of a senior project course, collaborated with Meteksan Defence Inc.

Smart Parking System *(TensorFlow, OpenCV, Java)*
Design of an algorithm to detect license plates in video streams and perform optical character recognition for smart parking systems' automated registration and authentication processes, project done during internship.

Optical Puzzle Game *(Java)*
Design and implementation of a target hitting puzzle game with optical instruments, e.g. mirrors and lenses, as part of algorithms and programming course.

AWARDS & HONORS

- **Recipient of 5G & Beyond Graduate Support Program** *2019 - 2020*
  Funded during M.Sc. studies by ICTA
- **National University Entrance Exam** *June 2015*
  Ranking: 96
  Around 2 million participants, received full scholarship plus stipend from Bilkent University throughout undergraduate studies.

SKILLS

Programming Languages	Python, MATLAB, Java, C/C++, LabVIEW, VHDL
Frameworks	PyTorch, TensorFlow, OpenCV, JAX, Scikit-Learn, Scipy
Tools	Linux, Vim, Git, Shell, MySQL

CURRENT RESEARCH INTERESTS

- Machine Learning
- Signal Processing
- Distributed / Convex Optimization
- Wireless Communication Systems
- Co-existence for Future Cellular Networks
- True-Time Delay Arrays
- Spectrum Sharing Technologies