# MEHMETCAN GOK

Department of Electrical and Computer Engineering
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## EDUCATION

**Northwestern University** September 2022 - Ongoing
Ph.D. in Electrical Engineering *Evanston, IL*
***GPA***: 3.96/4.00
***Advisor***: Prof. Michael Honig

**Bilkent University** September 2019 - August 2022
M.S. in Electrical and Electronics Engineering *Ankara, Turkey*
***GPA***: 3.96/4.00
***Advisor***: Prof. Orhan Arikan
***Thesis***: Semantic and Goal-oriented Signal Processing: Semantic Extraction

**Bilkent University** August 2015 - June 2019
B.S. in Electrical and Electronics Engineering *Ankara, Turkey*
***GPA***: 3.76/4.00

## 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.

## CURRENT RESEARCH INTERESTS

- Distributed / Convex Optimization
- High-Dimensional Statistics
- Statistical Learning Theory
- Mathematics of Data Science
- Computer Vision
- Learning and Control for Wireless Networks
- Interference Mitigation and Management for Spectrum Coexistence

## 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.

## SELECTED PROJECTS

**Deep Learning Aided Decision Support System for Covid-19 Diagnosis** *(TensorFlow)*
Creation and processing of Thorax CT and RT-PCR dataset, design and implementation of algorithms for glass opacity highlighting in CT images, sequence modeling of RT-PCR and multi-modal classifier, 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.

## SKILLS

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|---|---|
| **Programming Languages** | Python, MATLAB, Java, C, LabVIEW, VHDL |
| **Frameworks** | PyTorch, TensorFlow, OpenCV, JAX, Scikit-Learn, Scipy |
| **Tools** | Linux, Docker, Git, Shell, MySQL |

## TEACHING ASSISTANT

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|---|---|
| **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* |

## 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.