Doğuş Berk Koçak

dbkocak@iese.edu | dbkocak.github.io

Education

IESE Business School — PhD in Operations, Information and Technology — 2026 – Present
Barcelona, Spain

Bilkent University — Industrial Engineering MSc — 2022 – 2025
CGPA 3.81 / 4.00 — *Ankara, Turkey*

Middle East Technical University — Industrial Engineering BSc — 2016 – 2022
CGPA 3.21 / 4.00 — *Ankara, Turkey*

Research Experience

Inventory Allocation and Fulfillment in Distribution Networks — 2025–Present

- Developing optimization models for inventory and transshipment decisions. Investigating approximation methods using Sample Average Approximation (SAA) and Monte Carlo simulation, with applications to real-world pharmaceutical inventory management.

Bayesian Modeling for Vehicle Reliability and Workforce Planning — 2023 – 2025

- Master's thesis: *Predictive Modeling of Vehicle Failures with Hierarchical Bayesian Methods for Workforce Planning.*
- Developed hierarchical Bayesian models for predicting vehicle failures and embedded in a sequential decision-making framework
- **Methods:** Hierarchical Bayesian Modeling, MCMC, Stochastic Processes, Markov Decision Processes.

Addressing Coverage Holes with Multiple Mobile Sensors — 2021 – 2022

- Undergraduate research project funded by TÜBİTAK 2209.
- Investigated coverage hole recovery in wireless sensor networks using mobile sensors.
- **Methods:** Mixed-Integer Programming, Goal Programming, Heuristic Algorithms.

Teaching Experience

Applied Data Analysis — IE451 — 2024 – 2025

- Conducted R-based lab sessions and developed teaching materials covering exploratory data analysis, statistical modeling, and inference

Stochastic Models — IE325 — 2023 – 2025

- Conducted biweekly recitation sessions covering Markov chains, Poisson processes, continuous-time Markov chains, and queueing models

Production Planning — IE375 — 2024 – 2024

Manufacturing Processes and Operations Analysis — IE272 — 2022 – 2023

Industry Experience

Industry Collaboration Project — Arçelik A.Ş. x METU — Oct 2021 – Jun 2022
Eskişehir, Turkey

- Developed a decision support system for material requirements planning.

Business Development Intern — UrbanFarm DE — Jul 2021 – Oct 2021
Berlin, Germany

Business Development Intern — TOFAŞ Türk Otomobil Fabrikası A.Ş. — Feb 2021 – Mar 2021
Istanbul, Turkey

Process Quality Intern — Türk Traktor ve Ziraat Makineleri A.Ş. — Aug 2020 – Sep 2020
Ankara, Turkey

Project Intern — QNB Finansbank A.Ş. — Jul 2020 – Aug 2020
Istanbul, Turkey

Process Engineering Intern — Eti Gıda Sanayi ve Ticaret A.Ş. — Jun 2019 – Jul 2019
Eskişehir, Turkey

Skills

Languages: Turkish (Native), English (TOEFL: 102)

Computer Languages: `Python, R, C++, MATLAB, SQL`

Optimization Tools: Gurobi, IBM CPLEX, GAMS

Others: LaTeX, Excel VBA, Minitab, Arena

Achievements

Outstanding Teaching Award: Recognized annually for excellence in teaching at Bilkent University

Graduate Success Scholarship: Awarded to promising students for outstanding academic potential and commitment to future graduate studies by The Scientific and Technological Council of Turkey