Doğuş Berk Koçak

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EDUCATION

Bilkent University — Industrial Engineering MSc   2022 – Present
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

Predictive Operational Workforce Strategies for Managing Vehicle Failures   2022 – Present

- Conducted an empirical study assessing vehicle reliability and providing insights for decision-makers
  Developed statistical models for predicting vehicle failures, maintenance, and workforce planning
- **Methodologies:** Bayesian Hierarchical Modeling, MCMC, Stochastic Processes, Reliability Theory

Addressing Coverage Holes with Multiple Mobile Sensors   2021 – Present

- Granted by The Scientific and Technological Research Council of Turkey (TÜBİTAK)
- Coverage hole recovery problem with multiple sensors in Wireless Sensor Networks
- **Methodologies:** Mixed Integer Programming, Goal Programming, Heuristic Design

TEACHING EXPERIENCE

Applied Data Analysis — IE451   2024 – 2025

- Conducted labs and prepared materials on statistical modeling and data analysis using R

Stochastic Models — IE325   2023 – 2025

- Prepared quizzes, homework, and recitation materials; conducted bi-weekly recitations on probability,
  Markov chains, Poisson processes, continuous-time Markov chains, and queueing models

Manufacturing Processes and Operations Analysis — IE272   2022 – 2023

- Conducted CAD software labs and assignments, assisted term projects on manufacturing system simulation

INDUSTRY EXPERIENCE

System Design Member — Arçelik A.Ş. x Middle East Technical University   Oct 2021 – June 2022
- Decision support system for material requirement planning in refrigerator plant *Eskişehir, Turkey*

Business Development Intern — UrbanFarm DE   Jul 2021 – Oct 2021
- Granted by Erasmus+ Programme   *Berlin, Germany*
- Communicated with customers and tracked sales operations using automation tools

Business Development Intern — TOFAŞ Türk Otomobil Fabrikası A.Ş.   Feb 2021 – Mar 2021
- Partner of FCA, manufacturer of Fiat brand passenger cars and commercial vehicles *Istanbul, Turkey*
- Private lease and used cars department

Process Quality Intern — Türk Traktor ve Ziraat Makineleri A.Ş.   Aug 2020 – Sep 2020
- Turk Traktor is the producer of New Holland and Case IH brand tractors in Turkey *Ankara, Turkey*
- Improved the management information system of quality control processes

Project Intern — QNB Finansbank A.Ş.   Jul 2020 – Aug 2020
- Project on increasing the number of active customers in the mass segment   *Istanbul, Turkey*

Process Engineering Intern — Eti Gıda Sanayi ve Ticaret A.Ş.   Jun 2019 – Jul 2019
- Productivity analysis, work and time study   *Eskişehir, Turkey*

Skills

Languages: Turkish, English (TOEFL: 101)

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

Optimization Tools: Gurobi, IBM CPLEX, GAMS

Others: LaTeX, Excel VBA, SQL, 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

Ranked in the top 0.05% (999th out of 2 million students): The University Entrance Exam (YGS/LYS)

Extracurricular Activity

- Five years of debate experience participated in many organizations as a competitor and chair representing METU Debate Society. Additionally, served as a debate trainer in universities and high schools in Ankara. Debate topics included social issues such as individual-state relations, ethics, morality, media, minority rights, law, etc.

- Attended Anadolu University Sociology Program (Open Education Faculty) for 2 years; discontinued due to scheduling conflicts.