

KAAN APAK

Date and Place of Birth: 22.07.2000, Istanbul, Turkey

CONTACT INFORMATION

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EDUCATION & QUALIFICATIONS

University of Waterloo, Waterloo/ Canada

Sept 2026–Present

PhD in Management Science

Ozyegin University, Istanbul/ Turkey

Sept 2022–Dec 2024

MSc in Data Science with Thesis: Optimizing Quotation-Based B2B Pricing, GPA: 4.0/4.0

Achieved 100% academic scholarship (Fellowship Scholar).

Ozyegin University, Istanbul/ Turkey

Sep 2018–Jun 2022

BSc in Industrial Engineering with a Minor in Computer Engineering, GPA: 3.82

Achieved 75% academic merit scholarship.

Graduated as the top student in the department.

IELTS (L: 7.5, S: 6.5, R:8.0, W:7.0, Overall:7.5)

PUBLICATION & WORKING PAPERS

- Bozkır, C., Apak, K., Balcık, B., & Güneş, E. D. (2025). *Chronic Care Management in Times of Capacity Shortages: An Integrated Patient Assignment and Treatment Scheduling Problem for Post-Disaster Hemodialysis Planning*. Manuscript under minor revision at Omega – The International Journal of Management Science.
- Apak, K., Daşdemir, N. C., Gevşek, A. A., Turhan, D. A., Yüksel, Y., & Zorlubilek, Ö. (2022). *Employee Scheduling Problem for a Retail Store with Multiple Product Categories and Heterogeneous Employees*. Proceedings of the International Conference on Industrial Engineering and Operations Management (IEOM), Istanbul, Turkey.

RESEARCH PROJECTS

Master's Thesis Project, Optimizing Quotation Based B2B Pricing, Istanbul/ Turkey, Researcher

2024–2025

Conducted my master's thesis on solving Borusan CAT's real quotation based pricing problem by developing interpretable and high performance clustering and pricing models under the supervision of Dr. Enis Kayış.

- Mathematically modeled the regression clustering problem to identify quotations in the sales funnel with higher or lower price elasticity for data driven pricing strategy decisions.
- Used complex models together with an interpretable modeling framework (teacher–student model) to maximize the performance of the regression-clustering methodology while preserving explainability.
- Developed a simulated annealing inspired regression clustering algorithm to achieve high log-likelihood values with short runtime at large datasets.
- Identified quotations in the sales funnel where underpricing led to lost gross margin and where overpricing caused lost quotations, providing essential insights for future pricing strategies.

Ozyegin University/ TUBITAK, Istanbul/ Turkey, Researcher

2021–2025

Co-authored the manuscript “Chronic Care Management in Times of Capacity Shortages: An Integrated Patient Assignment and Treatment Scheduling Problem for Post-Disaster Hemodialysis Planning” under the supervision of Prof. Dr. Burcu Balcık; currently under revision at OMEGA– The International Journal of Management Science.

- Coded a prototype decision support system (DSS) that allows practitioners to use the developed algorithms for pre-disaster scenario based analyses and post-disaster patient management to enhance the practical application of the research.
 - Supervised the team of coders using Java Spring in the iterative development of the DSS, coordinating progress through regular meetings with practitioners.
 - Provided a workshop to demonstrate the application's functions to policy makers and determine the requirements for deploying the DSS.
- Developed a new greedy algorithm named the Iterative Constructive Heuristic using object oriented programming to solve assignment and scheduling problems in short runtime and with high performance, which is critical for policymakers.

Representative Optimization in Retail Operations (Boynier), Istanbul/ Turkey, Researcher

Sep 2021–Jun 2022

- Conducted 1,400 simulation runs in Arena simulation software using VBA to model profit across different representative placement configurations.
- Utilized a mathematical model that incorporated simulation outputs as parameters to optimize the system and solved it using IBM ILOG CPLEX.
- Presented the study at the International Conference on Industrial Engineering and Operations Management (IEOM), where the work was published in the conference proceedings.

WORK EXPERIENCE

Borusan CAT, Online, 45 hrs/wk

Jul 2021–Jul 2026

- Data Analysis and Business Intelligence Specialist, Full-time, Dec 2024–Present
 - Used Python scripts to reduce monthly report generation time from 5–6 days to less than two hours, making it possible to publish reports more frequently with significantly lower effort.
 - Reverse-mentored the CEO and contributed to defining a simplicity framework to clarify the company's value proposition, terminology, and service descriptions.
- Data Analysis and Business Intelligence Alpha Assistant Specialist, Online, Jul 2022 –Dec 2024.

- Chosen as one of a few candidates for the highly competitive Management Trainee Program (Alpha Young Talent Program) among 13,000+ applicants.
- Led the development of the ChatGPT-4o-based “DashBot,” assisting users in finding relevant dashboards and increasing the usage of more than 35 dashboards across the organization.
- Enhanced data quality and expanded data-warehouse coverage by collaborating with IT teams and defining metrics to monitor data reliability for transaction, customer, and equipment data.
- Data Analysis and Business Intelligence Intern, Online, Jul 2021- Jul 2022.
 - Used explainable machine learning methods such as PCA to understand the impact of initiatives on customer profitability and identified strategies that did not have meaningful effects.
 - Developed a Python Tkinter tool that clusters parts based on user inputs to support pricing decisions.

Ozyegin University, 10 hrs/wk, Teaching Assistant

Jul 2023-Dec 2024

- Conducted recitation sessions for the following courses: Simulation Modelling and Analysis; Probability and Random Variables, supporting students by reviewing concepts from lectures and solving practice questions.
- Graded assignments, quizzes, and midterm exams by preparing a grading rubric to ensure consistent evaluation and providing constructive feedback to students.
- Held weekly office hours for Mathematical Modelling and Heuristic Models to clarify modeling questions and help students code algorithms revised in lectures.

Ozyegin University Sustainability Platform, Istanbul/ Turkey, 5 hrs/wk, Data Analyst

Sep 2022-Jun 2023

- Supported the university’s Sustainability Platform by developing analytics tools and dashboards to monitor research and teaching activities aligned with the UN Sustainable Development Goals (SDGs).
- Collaborated with IT and library teams to collect research and course data, built a Python keyword-based algorithm to label courses from syllabi, and implemented a Power BI dashboard to visualize SDG-aligned research output.
- Encouraged cross-department collaboration by visualizing researchers’ fields and SDG contributions, and published the dashboard on the platform’s website to make the results accessible to stakeholders.

Bilkom, Online, 4 hrs/wk, Intern

Oct-Dec 2020

- Prepared a comprehensive e-commerce customer satisfaction report for Bilkom, distributor of Apple, and analyzed omnichannel marketing practices to develop recommendations for collaboration with key retail partners.

TECHNICAL SKILLS

Coding Languages: CPLEX, Java, Python, Spring Framework, VBA

Tools: Arena Simulation Software, Power Automate, Power BI

Methodologies: Machine Learning, Metaheuristic Algorithms

ANALYTICAL PROJECTS & COLLABORATIONS

Women Shelter Optimization Project, Istanbul / Turkey, Project Leader

Mar 2023-Present

- Initiated a multidisciplinary student-led initiative focused on improving access to support services for women affected by violence using data-driven decision-making.
- Coordinated meetings with policymakers from the municipality and NGOs, including the Purple Roof Women’s Shelter Foundation, to understand operational constraints and bottlenecks.
- Developed an initial optimization framework to explore how limited resources could be allocated to reach more women affected by violence, laying the groundwork for future research.

INSEAD-NGO Fleet Management, Online, Researcher

Feb-May 2025

- Analyzed fuel consumption data from multiple NGOs in Power Query to identify key factors influencing environmental impact metrics.
- Conducted comparative analysis by segmenting vehicles into four age-odometer quadrants, which highlighted variations in replacement strategies currently applied by different NGOs.
- Built a parameter-driven Power BI module that allows users to enter age and odometer replacement thresholds and visualize the resulting changes in carbon emission indicators.

Climate and Mobility Datathon, Istanbul Municipality Data Laboratory, Istanbul / Turkey, Mentor

Oct-Dec 2023

- Guided a student team during the Climate and Mobility Datathon by helping them frame their research question and structure their analytical approach.
- Assisted the group in selecting data from the municipality’s database and evaluated the outcomes of their implemented machine learning approaches, and was awarded second prize in the datathon.