

SEFA BERK ACAR

DATA SCIENTIST

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Professional Summary

Data Scientist with a B.Sc. in **Mathematics** and hands-on experience in **retail analytics**, **data preparation**, **dashboard development**, and **machine learning**. Experienced in analyzing **large-scale FMCG data** using **Python**, **SQL**, **Pandas**, and **Power BI**, with a focus on **data cleaning**, **exploratory data analysis**, **model evaluation**, **demand forecasting**, and **business reporting**. Developed analytical solutions for **price elasticity**, **stock-out analysis**, and **unrealized demand estimation**, translating model outputs into actionable business insights.

Experience

Quantum Machine Learning Bootcamp Teaching Assistant | Miuul - Uppsala, Sweden | Jul 2026 – Current

- Assisted Joseph Volkan Özcan in teaching quantum computing and quantum machine learning concepts.
- Supported participants in practical projects involving quantum circuits, variational algorithms, hybrid models, Python, and Qiskit.

Data Scientist | Part-Time | Logix AI Labs | Jan 2025 – July 2026

- Partnered with a top-tier FMCG client** to transform large-scale retail data into strategic pricing and supply chain insights through rigorous EDA and model evaluation
- Developed **price elasticity-based demand forecasting models**, improving prediction accuracy by **up to 13%** on selected SKUs via elasticity-aware feature engineering and scenario analysis.
- Estimated **counterfactual demand using similarity-based SKU-store time series**, revealing **~5% total unrealized sales** and **up to 25% loss** at the SKU-store level.
- Diagnosed **daily stock-out and on-shelf availability** patterns, identifying **lost-demand** root causes and replenishment inefficiencies across stores and products.
- Delivered **interactive Power BI dashboards** benchmarking actual sales against estimated potential demand, enabling market- and product-level opportunity analysis.

Data Scientist and ML Bootcamp Teaching Assistant | Miuul - Uppsala, Sweden | Apr 2024 – Current

- Assisted in teaching **machine learning**, **statistics**, and **applied data science** topics to bootcamp cohorts.
- Supported students in projects covering supervised learning, time series forecasting, and model evaluation.

Yıldız Teknik University Data Science Community | Mint - Turkey, Istanbul | Mar 2024 – Jul 2025

- Actively participated in **hackathons** and **datathons** representing the community.
- Contributed to applied data science projects and competitive analytics challenges.

Education

Yildiz Technical University | Istanbul, 34 | Feb 2026

Bachelor of Science: Mathematics

- Thesis:** "Determination of Optimum and Secure Routes for Mission-Critical Systems Using Artificial Intelligence Techniques"
- Supervisor:** Assoc. Prof. Dr. Muttalip Özavşar
- Thesis Mentor (Industry):** Alper Bereketli, PhD – Senior Principal Engineer, **ASELSAN**
- Developed AI-based route optimization solutions using **elevation data**, **risk maps**, and **autonomous drone** inputs for **mission-critical navigation scenarios**.

Competitions

[DatathonAI'24: Image Location Prediction](#)

- Built an **image-based location prediction pipeline** using **ResNet50** embeddings.
- Integrated **visual similarity** and **geographical distance (L2, Haversine)** with spectral clustering.
- Ranked **8th among finalist teams** after qualifying from 90+ teams.

Doping Technology Edu-Tech AI Hackathon 2024

- Selected among **450+ teams** to develop an **AWS-based AI solution** for educational analytics.
- Built a system to infer **students' psychological state from behavioral signals** for personalized guidance.
- Awarded **Mention Prize** for innovation and real-world impact.

AlgoRun'24 Hackathon: Retail Sales Forecasting

- Developed a **time series forecasting model** using **LightGBM** and advanced **feature engineering**.
- Forecasted July–August 2024 sales using historical retail data.
- Achieved **Top 6** ranking with **0.68 RMSLE**.

[ING Hubs Türkiye Datathon 2025: Churn Prediction](#)

- Built **churn prediction** models using **banking transaction and behavioral time-series data**.
- Optimized performance across Gini, Recall@10%, and Lift@10% metrics via feature engineering.
- Ranked **5th** on the Private Leaderboard and advanced to the final presentation stage.

Trendyol E-Commerce Hackathon 2025 (Kaggle) – Search Ranking & Conversion Prediction

- Developed learning-to-rank models to optimize product ordering based on click and purchase probabilities.
- Modeled user–query–date sessions using behavioral and content features; optimized rankings with session-level AUC.
- Achieved **Top 11% ranking (32nd out of 302 teams)** among **1,100+ entrants** on the private leaderboard.

Projects

[A/B Testing & Player Retention Analysis – Cookie Cats \(Personal Project\)](#)

- Analyzed an A/B experiment in a mobile game to optimize player retention, using statistical testing and bootstrapping to guide product decisions that improved long-term user engagement.

[CRM Analytics: RFM Segmentation & CLV Prediction \(Coffee Shop\) \(Personal Project\)](#)

- Built RFM-based customer segments and estimated customer lifetime value using BG/NBD + Gamma-Gamma on transactional data (Python, Pandas, Lifetimes).

Skills

- **Languages & Databases:** Python, SQL (MS SQL)
- **Machine Learning & Deep Learning:** Scikit-learn, TensorFlow, PyTorch, LightGBM, CatBoost, Reinforcement Learning, Supervised Learning, Unsupervised Learning, Learning to Rank, Time Series Forecasting, NLP, LLM
- **Data Analysis & Visualization:** Power BI, Pandas, NumPy, Exploratory Data Analysis (EDA), A/B Testing
- **Deployment & Cloud:** AWS, FastAPI, Streamlit, Flask
- **Mathematical Foundations:** Linear Algebra, Optimization Techniques, Time Series Analysis, Probability & Statistics, Graph Theory, Heuristics, Experiment Design, Analytical Thinking

Certificates

- **Miuiul – Data Scientist Bootcamp**
- **European Coding School – Data Science and AI Specialization**
- **Samsung Innovation Campus – Artificial Intelligence Program (In Progress)**
- **DeepLearning.AI – Neural Networks and Deep Learning**
- **DeepLearning.AI – Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization**
- **DeepLearning.AI – Structuring Machine Learning Projects**
- **Akbank – Artificial Intelligence and Data Analytics 101**