

# OMER KOC

☎ +1 617 870 1965 ✉ koc.o@northeastern.edu 🌐 omerskoc.com 🌐 linkedin.com/in/omerskoc

## Education

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### Northeastern University

M.Sc. in Data Science, 1st in Class, GPA: 3.96/4.00

Jan. 2023 – May. 2025

Boston, MA

### Istanbul Technical University

B.Sc. in Industrial Engineering, 3rd in Class, GPA: 3.73/4.00

Sep. 2016 – Jun. 2021

Istanbul, Turkey

## Experience

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### Boston Consulting Group

Oct. 2025 – Present

*Data Scientist | Machine Learning, Strategic Problem Solving, Business Transformation*

Boston, MA

- Design and deploy end-to-end ML solutions to address complex client problems and deliver measurable business impact.
- Partner with consultants and engineers to translate strategic objectives into scalable, production-ready data products.
- Develop data pipelines and monitoring workflows to ensure reliable model performance in production.

### MATREU

Sep. 2024 – Dec. 2024

*Data Scientist | Amazon Ads, A/B Testing, Predictive Analytics, ETL Automation, Dashboarding*

Austin, TX

- Analyzed 20+ Amazon ad campaigns using Helium10 to measure ROI, engagement metrics, and product performance.
- Built dashboards and trained ad models using 12 months of click and conversion data to track key KPIs.
- Developed predictive models to forecast sales trends, inform marketing strategies, and allocate ad spend more effectively.

### Khoury College of Computer Sciences

Dec. 2023 – Jun. 2024

*Graduate Teaching Assistant | Data Modeling, Python, SQL, OLAP, MongoDB*

Boston, MA

- Guided 40+ students through data modeling, ER diagrams, database design, and normalization up to BCNF.
- Evaluated SQL queries, OLAP analysis, and semi-structured data tasks using Python, MongoDB, and XPath.
- Hosted weekly lab sessions on data cleaning, schema design, query tuning, and project debugging with Python and SQL.

### Dynflux

Jan. 2022 – Dec. 2023

*Data Science & Analytics Specialist | Predictive Modeling, Feature Engineering, Python, SQL*

Remote

- Developed predictive models using Python and SQL, optimizing marketing spend and increasing campaign ROI by 15%.
- Built Tableau dashboards to track funnel KPIs, customer engagement, and omnichannel sales trends for executives.
- Engineered features from raw clickstream and transaction data to improve model accuracy and segment targeting.

### Turkcell

Dec. 2020 – Sep. 2021

*Data Analyst | Customer Segmentation, Ad Hoc Analysis, Power BI, Excel, SQL*

Istanbul, Turkey

- Monitored KPI trends for SME and Key Accounts, providing insights to support revenue targets and budget planning.
- Developed SQL scripts for customer segmentation and personalized campaigns, reducing churn and boosting ARPU.
- Consolidated multi-channel sales data and prepared executive dashboards and presentations using Excel and Power BI.
- Provided timely datasets and ad hoc analyses to McKinsey consultants to support company-specific strategic reports.

## Selected Projects

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### Urban Air Quality Forecasting | Python, Time Series, XGBoost, LSTM, Tableau 🌐

May. 2025

- Integrated 5 years of traffic and weather data for multiple cities to analyze urban air pollution and seasonal trends.
- Engineered features and built XGBoost and LSTM models to predict PM2.5, PM10, and NO2, reaching RMSE of 4.35.
- Deployed an interactive Tableau dashboard to show time series forecasts, feature impacts, and city pollution patterns.

### PubMed XML to Relational & Analytical Database | MySQL, ETL, SQL, R 🌐

Feb. 2023

- Parsed PubMed XML and converted it to a normalized MySQL schema, ensuring data integrity and query efficiency.
- Implemented ETL pipelines using R to clean, load, and structure publication records for analysis.
- Wrote analytical SQL queries and custom R scripts to extract insights like top journals and quarterly article trends.

### Intraday Electricity Market Price Forecast Using Machine Learning | Python, Machine Learning 🌐

Jun. 2021

- Analyzed 6 years of intraday energy market data, applying anomaly detection and correction with Facebook Prophet.
- Applied five feature selection methods for dimensionality reduction, identifying key predictors among 50+ variables.
- Achieved \$1.5 MAE with a CNN-LSTM hybrid, outperforming Bi-LSTM and GRU models in time-series forecasting.

## Technical Skills

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**Languages & Tools:** Python (Pandas, NumPy, Matplotlib, NLTK, Scikit-learn), SQL (advanced), MySQL, R, Tableau, Snowflake, Power BI, Excel, AWS (EC2, S3, Lambda), Git

**Expertise:** Data Cleaning & ETL, Relational Database Design, Statistical Analysis, Hypothesis Testing, A/B Testing, Time Series Forecasting, NLP, KPI Reporting, Dashboard Development