

Burak Duru, Master of Science (MSc)

Data Analyst — Marketing, Product, Research



📍 Turkey & China

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Profile

Business-oriented Data Analyst and **Research Scientist** with a statistical, scientific and programming-intensive background. **3+ years** of experience designing, deploying and optimizing ETL pipelines and analytics solutions. Skilled in CRM and transforming large, complex datasets into reliable, actionable insights via performance measurements & behavioral analytics, exploratory & diagnostic analysis, cohort analyses & controlled experiments. Passionate about building interactive, high data-to-ink ratio dashboards to work closely with cross-functional teams. **Core strength lies in data storytelling** with recommendations by monitoring **tailored KPIs** and other metrics, adapted to the business context and the needs of stakeholders **across different levels of detail and technicality**. Able to leverage supervised & unsupervised algorithms to identify patterns and make data-driven predictions; effective at utilizing AI tools where appropriate to accelerate analytical workflows and insight delivery. **Advanced Python & SQL developer and Microsoft Excel wielder**; proficient in database crossmatching, data wrangling, visualization, scraping and statistical modelling. Proven track record building reproducible, production-ready pipelines with API integrations, and version control, including a solo-developed full-stack social media blog website.

Having a background in physics/astronomy provides a rigorous statistical and scientific foundation, including quantitative research experience working with **large datasets** that arise naturally from studying the universe; practiced at extracting signals from observational and simulated data. My ability to collaborate across cultures was strengthened by having studied at two of China's leading universities (**#26 Worldwide [THE, 2026]**) and through multicultural work experiences, enabling me to bridge methodological differences and **translate findings for non-native English speakers**.

Known for a skeptical, statistically intuitive and evidence-driven mindset, meticulous attention to detail, critical thinking, intellectual curiosity, persistent problem-solving, adaptability, multilingualism and **creative perspective**.

Technical Skills

- **Advanced Python** (Have worked with 20+ libraries including NumPy, Pandas, Matplotlib, Plotly, Seaborn, SciPy, scikit-learn, PyTorch, TensorFlow, BeautifulSoup, Django...), **SQL** (PostgreSQL & MySQL), **NoSQL** (MongoDB & Atlas), **Microsoft Excel** (VBA, Power Query, PivotTable), **Google Sheets**, **Git**, **Jupyter Notebook**.
- **Proficient Google Cloud Platform (GCP)**, **BigQuery**, **Looker**, **Google Analytics 4 (GA4)**, **Tag Manager**, **Google Ads & Trends**, **Tableau**, **Power BI**, **Full Stack Web Development** (HTML, CSS, JavaScript, React, JQuery, Node.js & Express, Bootstrap & Tailwind CSS), **Streamlit**, **Linux Kernel** (Ubuntu), **LaTeX**.
- **Working Knowledge of Amazon Web Services (S3, SageMaker, Lambda)**, **Java**, **Interactive Data Language (IDL)**, **Wolfram: Mathmetica**, **XGBoost**, **LightGBM**.
- **Familiarity with Kubernetes (K8s)**, **n8n**, **Terraform**, **PHP**.

Experience

❖ Data Analyst

September 2025 – Present

Freelance & Self Training

Worldwide

- Analyzed user behavior by tracking MAU, session duration, CPM, and engagement metrics in a mobile app, delivering **monetization** recommendations and data-driven actions to improve churn and retention.
- Created a Looker Studio dashboard using BigQuery and Google Sheets to analyze **post-acquisition customer behavior** from an e-commerce dataset (**2.4M+ records**), identifying revenue & ROI patterns for Christmas.
- Deployed and executed **A/B tests** on a personal website using Google Analytics and Google Tag Manager, providing actionable insights that guided UI/UX improvements and traffic allocation, increasing CTR by **27%**.
- Performed exploratory data analysis (**EDA**) on API-integrated box office data (1900–2025) with Python, uncovering correlations between KPIs (<https://github.com/duruburak/EDA-w-Python>).
- Engineered an unsupervised learning pipeline using K-Means clustering on **76,125** transaction records, with PCA for dimensionality reduction and domain-specific feature engineering for future budget allocation.
- Developed and fine-tuned Logistic Regression, Random Forest, and Boosting models on **1.1M+** samples using scikit-learn and Pandas, resolving discrepancies to boost accuracy by **7%**. Constructed 42 data tables across 11 systems (**3M+ records**) and improved database precision by **18%** via optimized queries.

❖ Research Student Scientist

March 2022 – December 2025

Ankara University

Ankara, Turkey

- Developed an automated workflow with Python to segment observational data into individual phases, increased efficiency by lowering processing time by **10+ hours** each, compared to manual processing.
- Co-authored **peer-reviewed papers** on top (**Q1**) journals; co-supervised an intern on data gathering.
- Fitted observational data using least-squares and MCMC methods, selected optimal models through statistical criteria, applied Bayesian inference, Lomb-Scargle periodogram, and hypothesis testing on **time-series data** to characterize periods with false alarm probabilities, assess posterior distributions.

❖ Visiting Student (Part of TÜBİTAK R&D Program)

September 2024 – June 2025

Nanjing University

China

- Conducted a case study about China's long-term economic return strategy on indirect revenue flows from high-speed rail projects, highlighting social impact and cross-subsidization across routes
- Academic Visit to Xinglong Observatory – NAOC January 2025
- Academic Visit to Sichuan University, Department of Nuclear Engineering November 2024
- 2024 National Planetary Science Conference October 6 – 12, 2024

❖ Intern/Volunteer

October 2019 – June 2024

Kreiken Observatory

Ankara, Turkey

- Performed night-sky observations with multiple telescope systems; calibrated and reduced raw CCD images into utilizable datasets; carried out extensive data preprocessing and **exploratory data analyses (EDA)**, including m/v handling, outlier detection, normalization and feature sel. to ensure statistical validity of scientific interpretation.

Languages

- Turkish — Native
- English — Advanced (C1)
- Chinese — Intermediate (HSK 4)
- Korean — Beginner (Writing/Reading Profic.)

Scholarships

The Scientific and Technological Research Council of Türkiye (TÜBİTAK)

Fully Funded “1001 Research & Development” Scholar

January 2024 – December 2025

Education

❖ Nanjing University, School of Astronomy and Space Science

September 2024 – June 2025

Visiting Student

❖ Peking University, School of Chinese as a Second Language

July 2024 – August 2024

Summer School

❖ Ankara University, Graduate School of Natural and Applied Sciences

Fall 2023 – Spring 2026

Master of Science, Astronomy and Space Sciences (GPA 3.5/4.0)

❖ Ankara University, Faculty of Science

September 2018 – June 2022

Bachelor of Science, Physics (GPA: 3.5/4.0)

Certifications & Training

(Selected — full list [15+] available on request)

- Google Analytics Certification — [Google Digital Academy \(Skillshop\)](#)
- Google Ads Measurement — [Google Digital Academy \(Skillshop\)](#)
- SQL 100 ([LeetCode](#)) & SQL 75 ([StrataScratch](#))
- Data Science Tools — [IBM](#)
- 100 Days of Code: The Complete Python Pro Bootcamp — [Dr. Angela Yu](#)
- Using Python for Research — [HarvardX](#)
- An Intuitive Introduction to Probability — [University of Zurich](#)
- Data Driven Astronomy — [The University of Sydney](#)

Soft Skills & Extracurricular Interests

- **Art & Music** | Playing Musical Instruments (Violin, Guqin, Piano), Listening to Music, Photography & Videography, Visiting Art Galleries, Acting & Drama.
- **Interactive** | Video Games, Video Game Development (Unreal Engine 5), Chess.
- **Curiosity & Microlearning** | Linguistics, Travelling, Exploring Different Cultures, Visiting School Campuses, Attending Conferences, Visiting Museums & Historical Exploration, Mythologies.
- **Multimedia, Photo/Video/Audio Processing** | Adobe: Photoshop, Lightroom, Premiere Pro, After Effects, Audition. VEGAS. DaVinci Resolve. FFmpeg.
- **Sports** | Tennis, Swimming, Volleyball, Archery, Badminton, Table Tennis.