

Baris Arslan

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Education

Middle East Technical University
Bachelor's of Science in Statistics

Ankara, Turkey
Expected January 2029

Information Technologies Certificate Program, Continuing Education Center, 336 hours

July 2025

Work Experience

Japan Tobacco International (JTI)
Finance Intern

Izmir, Turkey
July 2026 – August 2026

- Encoded 14 compliance rules from Turkish e-invoicing and tax regulation into a Python validation engine that extracts supporting evidence from each document into structured reports
- Developed a statistical anomaly layer scoring each invoice against the counterparty historical distribution using median, interquartile range, and percentile rank, with minimum-sample thresholds and strict look-ahead exclusion
- Validated the engine against a controlled test set and documented the methodology, assumptions, and known limitations
- Presented the engine to finance management, which requested it for internal use
- Rotated through the accounts payable cycle, covering invoice control, payment lists, expense posting, intercompany transactions, and import invoices in Excel

Projects

Chess Piece Values vs. Board Size

github.com/barisarslan-ds/chess-piece-values

- Simulated 270 million random-play piece duels in Julia across 27 board sizes, establishing that the classical piece values hold only near the 8x8 regime and diverge as board geometry scales
- Resolved the circularity of scoring a piece against opponents of unequal strength with an opponent-weighted win rate, equivalent to one iteration of eigenvector centrality
- Quantified sampling error by repeating each sweep 10 times at 100,000 duels per matchup and reporting standard deviations as confidence bands

Automated Financial News Pipeline

summarizedfinance.net

- Built an unattended Python pipeline ingesting 11,400 finance articles from 8 sources on a 3-hour cycle and publishing 4,900 over 4 months, backed by a single SQLite database
- Diagnosed silent extraction failures by profiling input against output length per source in SQL, then set a 500 character quality floor that retracted 552 articles, 11 percent of the published corpus
- Migrated 4,943 published URLs off Ghost to a Jinja2 static generator with no losses, recovering 44 URLs the platform had silently renamed by reconciling generated paths against live slugs

Skills

Programming: Python, SQL, Julia

Tools: SQLite, Excel, Git, Jinja2

Methods: Monte Carlo simulation, robust statistics, anomaly detection