EFE BALLAR

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EDUCATION

Sabanci University, Istanbul, Turkey   Expected Graduation: Jun 2025
- BSc in Computer Science & Engineering, Minor in Business Analytics
- GPA: 3.84
- Coursework: Data Structures & Algorithms, Discrete Mathematics, Theory of Computation, Database Systems, Operating Systems, Computer Architecture, Software Engineering, Machine Learning, Artificial Intelligence
- Sabanci Encouragement Award, 2022 & 2023 & 2024: Full-tuition scholarship awarded for academic excellence.

WORK EXPERIENCE

Amazon, *Business Intelligence Engineer Intern,* Istanbul, Turkey   Jul 2024 - Present
- Working within the Amazon Turkey Retail Finance team, designing pragmatic analyses and automated data pipelines to support key business metrics and improved decision-making processes.
- Utilizing SQL, and ETL tools for data extraction, transformation, and loading from Amazon Redshift clusters.
- Optimizing crucial SQL queries for improved performance and faster data retrieval from Amazon Redshift, reducing query execution times by 20%.
- Creating automated dashboards and reports using Quicksight and Excel, reducing time spent on manual reporting by 50% and enabling clear communication of insights.

Sabanci University, *Undergraduate Assistant,* Istanbul, Turkey   Oct 2023 – Jun 2024
- Assisted over 1000 students in IF100 and CS201 courses by holding office hours to address programming assignments in Python and C++, and led two-hour weekly recitation sessions on programming fundamentals.

PROJECTS

LLM-based Course Assistant, *Graduation Project*   Oct 2024 - Present
- Designing and implementing an LLM-based Course Assistant for Sabanci University to support students.
- Developing a retrieval-augmented generation model in Python for students to ask questions on lecture materials.
- Creating a web application with React and Node.js as frameworks, and NoSQL database to ensure accessibility.

Flight Roster Project, *Software Engineering Course (CS308)*   Feb 2024 - Jun 2024
- Developed a web-based system that can prepare flight rosters for an airline's flights.
- Used Node.js to implement APIs to display flight information, crew/passenger data, enhancing system functionality.
- Leveraged MySQL for relational database and MongoDB for NoSQL, to ensure scalable data storage and retrieval.

Database for Turkish Election Trends, *Program for Undergraduate Research Project (PURE)*   Oct 2023 - Jan 2024
- Researched and scraped over 80 years of historical election data from Turkey, transforming it into a suitable format.
- Utilized Python libraries for web scraping, extracting information from the official Turkish Electoral Board website.
- Conducted preliminary trend analysis and created data visualizations of past elections using Python and Excel.

Study Buddy App, *Mobile Application Development Course (CS310)*   Oct 2023 - Jan 2024
- Facilitated student collaboration by developing a user-friendly application with several key features, including course selection/filtering, study session creation, and comment posting on sessions.
- Backend implemented in Java, used MongoDB as database, experienced with Docker, and an application in Android.

Analysis of Turkey's Grand Assembly History, *Introduction to Data Science Course (CS210)*   Feb 2023 - Jun 2023
- Collected insightful data of the distribution of MPs throughout the years, by scraping the official website of the Grand Assembly of Turkey using Python's BeautifulSoup and Selenium libraries.
- Developed a ML model with Scikit-learn to predict next terms and created visualizations using matplotlib.

SKILLS

- *Computer Languages:* Python, R, Java, Assembly, C, C++, SQL, JavaScript, HTML, CSS
- *Technologies/Frameworks:* Pandas, Selenium, Matplotlib, REST APIs, MongoDB, Spring, Docker, AWS, Git