

Baran Mert Berber

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Senior Computer Engineering student specializing in data engineering, backend architecture, and database administration. Builds production systems, not prototypes: a database monitoring platform running on university servers and startup infrastructure, and a Spark/MongoDB pipeline processing 1.8M+ records. Hands-on with Python, Flask, Spring Boot, PostgreSQL, MongoDB, and Apache Spark, with a working knowledge of distributed systems, containerization, and application security.

Education

Inonu University

B.Sc. Computer Engineering

GPA: 3.00 / 4.00

Malatya, Türkiye

2022 – June 2026

Relevant Coursework: Data Structures, Big Data Analytics, Distributed Systems, Modern Database Management.

Experience

Galatasaray University — IT Department

Software Engineering Intern

Istanbul, Türkiye

February 2026 – June 2026

- Built and shipped an end-to-end Flask inventory platform now used by the IT department to manage hardware assets, staff assignments, and warehouse movements, replacing a manual spreadsheet workflow.
- Automated document generation with ReportLab and OpenPyXL, producing legally binding asset handover PDFs and Excel reports on demand and eliminating manual paperwork for every asset transfer.
- Cut equipment lookup time by implementing fuzzy search and category recommendation over thousands of items using Levenshtein string similarity, allowing staff to find assets despite typos and inconsistent naming.

Huawei Student Developers (HSD)

Core Team Member & Backend Developer

Türkiye

September 2024 – Present

- Own the backend of the community's main website, serving members across the HSD Türkiye chapter as the primary channel for event registration and announcements.
- Designed the Spring Boot and PostgreSQL service layer from scratch and secured session management with stateless JWT authentication and role-based authorization.
- Contribute to the technical direction of the chapter as a core team member, supporting workshops and onboarding junior members into the codebase.

Rize Municipality

Software Engineering Intern (Oracle APEX)

Rize, Türkiye

June 2025 – September 2025

- Delivered an Oracle APEX enterprise application that digitized project tracking for the municipality's press and broadcasting unit, moving reporting from ad-hoc paper records into a single system of record.
- Gave managers real-time visibility into project status and departmental performance through dashboards with color-coded pins on an interactive map, replacing manual status collection.
- Protected citizen and staff data by implementing role-based access control (RBAC) and hardened session management across all modules.

Projects

DBMonitor — Enterprise Database Monitoring, Analysis & Security System — [GitHub](#)

- **Running in production:** deployed on Galatasaray University servers and in the infrastructure of an independent team hosting 3 startups, monitoring live databases daily.
- **Monitoring dashboard:** surfaces real-time resource trends, wait-type distribution, penalty logs, and a dynamic health-score ring via Chart.js on a Flask backend, so operators spot degradation before users do.
- **Metric coverage:** tracks SQL Agent jobs, backup freshness, disk/log/WAL occupancy, memory pressure, blocking queries, and top-N long-running queries across MSSQL and PostgreSQL instances.
- **Security & autonomous ops:** hardened the codebase with Bandit SAST, added brute-force detection, and enabled remote backup and service control through an authenticated Telegram bot.
- **Stack:** Python, Flask, SQLite, Chart.js, Bandit (SAST), Telegram API

Hacker News Big Data Analysis System — Graduation Project — [GitHub](#)

- Ingested 1.8M+ technology articles from the Algolia API through a fault-tolerant pipeline that resumes from the last checkpoint after failure instead of restarting the crawl.
- Raised write throughput to ~1,000 documents/second by replacing per-document inserts with MongoDB Bulk Write batching.
- Reduced full-dataset processing from minutes to seconds by tuning Spark memory allocation (3 GB driver / 2 GB executor) and shuffle partition counts to match the cluster's resources.
- **Stack:** PySpark, MongoDB, Flask, Algolia API

Inventory Tracking & Asset Management System — Enterprise Solution — [GitHub](#)

- Designed a modular Flask-SQLAlchemy architecture with RBAC and digital asset documentation, structured so new asset categories and report types can be added without touching the core.
- **Stack:** Flask, SQLAlchemy, PostgreSQL

Other Projects

- **Aorta Segmentation from MRI Scans** — segmented the aorta from MRI slices using HOG features, thresholding, and edge detection. *Python, OpenCV, NumPy*
- **Autonomous Maze-Solving Robot** — mapped walls with a 180° rotating ultrasonic sensor and computed the exit path with DFS. *Arduino, C++*

Technical Skills

Languages: Python, Java, C++, SQL, PL/SQL

Data Engineering & Frameworks: Apache Spark (PySpark), Flask, Spring Boot, Oracle APEX, SQLAlchemy

Databases: PostgreSQL, MongoDB, Oracle SQL, MSSQL, SQLite, GaussDB

Tools & Practices: Git, Docker, Postman, JWT, RBAC, Bandit (SAST), LaTeX, AI-assisted development (Claude Code, GitHub Copilot)

Portfolio: rakmersoftware.com

Languages: Turkish (Native), English (B1)