

MUHAMMED BURAK APARI

Computer Engineering Student | AI, Full-Stack & Mobile Developer
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PROFESSIONAL SUMMARY

Final-year Computer Engineering student at Kocaeli University (GPA 3.51/4.00, High Honor) with hands-on experience across the full software stack: artificial intelligence and machine learning, web and backend development, mobile and desktop applications, database architecture and cybersecurity fundamentals. Completed a corporate software internship at an HRTech company, working with Git and SQL inside a production codebase, and spent a year as an AI-laboratory research assistant building applied machine-learning models on clinical data. Independently built and licensed a commercial offline desktop application for accounting practices. Seeking a software engineering role where AI-driven product development and clean, maintainable engineering practice intersect.

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, JavaScript (ES6+), TypeScript, C, C++, SQL, Assembly (8086).
- **Artificial Intelligence & Machine Learning:** Supervised and unsupervised learning, deep learning (ANN, CNN), natural language processing, feature engineering, model evaluation and hyperparameter tuning; Scikit-learn, Pandas, NumPy, Matplotlib, SPSS.
- **Web & Backend Development:** React.js, Next.js, Node.js, Express, Django, RESTful API design, Firebase, JWT/OAuth authentication, MVC architecture.
- **Mobile Development:** React Native (cross-platform iOS/Android), mobile-first responsive UI, REST API integration, Firebase Authentication and Cloud Firestore, offline data handling.
- **Cybersecurity:** Applied cryptography (encryption, hashing, RSA digital signatures), secure authentication and authorization flows, OWASP Top 10 awareness, input validation and SQL injection prevention.
- **Databases & Data Modeling:** PostgreSQL, MySQL, MongoDB, Redis; relational normalization, indexing, query optimization, transaction management.
- **Tools & DevOps:** Git/GitHub, Docker containerization, Linux/Bash, Postman, PyInstaller packaging, CI/CD pipelines, Agile/Scrum.
- **Computer Science Fundamentals:** Data structures and algorithms, complexity analysis (Big-O), operating systems (processes, threads, synchronization, mutex and semaphores), computer networks (TCP/IP, HTTP), object-oriented programming.
- **Software Engineering Practices:** SOLID principles, design patterns, clean code and refactoring, code review, unit testing, technical documentation, requirements analysis and UML modeling.

EXPERIENCE

Software Engineering Intern | EXEDRA HRTech, İstanbul, Türkiye | Jul 2026 – Aug 2026

- Contributed to the development and maintenance of HR technology software within a product team, working to commercial coding standards and sprint deadlines.
- Wrote and optimized SQL queries against relational databases to extract, join and report on HR and recruitment data used by internal stakeholders.
- Used Git and GitHub for version control in a shared repository: feature branching, pull requests, code review and merge conflict resolution.
- Participated in Agile ceremonies (daily stand-ups, sprint planning and reviews), documenting and testing changes before handoff.

Undergraduate Research Assistant | Kocaeli University AI Laboratory | Sep 2025 – Jun 2026

- Developed a machine-learning model tracking the clinical progression of Cushing's disease, working with faculty researchers and clinicians.
- Built the Python data pipeline (Scikit-learn, Pandas, NumPy): cleaning, normalization and feature engineering on anonymized patient records.
- Trained, tuned and cross-validated classification and regression models to improve clinical decision-support accuracy.

PROJECTS

Accounting Fee Tracking System – Licensed Desktop Application | Python, Tkinter, SQLite, PyInstaller

- Designed and shipped a fully offline Windows application for accounting offices to track monthly client fees, replacing scattered spreadsheets with a color-coded 12-month payment grid per client and built-in debtor, collection and expense reporting.
- Built the SQLite data layer with amounts stored as integer minor units to eliminate floating-point error, versioned fee tariffs so past months stay billed at the rate then in force, rolling automatic backups and 90-day soft-delete recovery.
- Implemented validated bulk client import from Excel, PDF receipt and account-statement generation (ReportLab) and four formatted Excel reports (OpenPyXL), including a color-coded annual payment matrix.
- Engineered an offline RSA-signed licensing scheme: machine-bound keys, public-key-only verification in the distributed binary, a post-expiry grace period and user data kept fully independent of license state.

Social Library Platform – Full-Stack Web Application | React.js, Node.js, PostgreSQL

- Built a social platform where users catalog books and films, rate them and follow other readers; integrated the Google Books and TMDb APIs for automatic metadata and cover retrieval.
- Designed a RESTful Node.js backend over a normalized PostgreSQL schema with JWT authentication, role-based authorization and server-side input validation to prevent SQL injection.
- Developed a dynamic admin panel for real-time content moderation and user management, using paginated queries and indexing to keep response times low as the dataset grew.

Logistics & Route Optimization System – Algorithm Design | Python, Dijkstra, VRP

- Engineered an optimization engine computing least-cost delivery routes across a multi-station network, with a Matplotlib dashboard for station load, route maps and cost breakdowns.
- Implemented and compared graph algorithms (Dijkstra's shortest path) and VRP heuristics, analyzing time and space complexity to select the most efficient approach for the problem size.

Diabetes Tracking System – Database Design & Analytics | PostgreSQL, MySQL, MongoDB

- Architected and normalized a relational schema (to 3NF) for patient records, glucose measurements, medication and physician notes, enforcing referential integrity with constraints and transactions.
- Wrote high-performance SQL for trend reporting (window functions, aggregate queries, indexed joins) and benchmarked relational versus document-based (MongoDB) storage for time-series readings.

QR Menu System – Mobile-First Web Application | React.js, Django, REST API

- Developed a contactless digital menu opened by scanning a QR code, designed mobile-first with a fully responsive interface optimized for small screens and slow connections.
- Implemented a Django REST backend with an owner dashboard for real-time menu, price and stock updates, plus image upload and multi-category management.
- Secured the admin area with authenticated session handling and server-side validation, and structured the API so the same endpoints can serve a React Native mobile client.

EDUCATION

Kocaeli University | Bachelor of Science in Computer Engineering | Expected Graduation: Jun 2027

- **GPA: 3.51/4.00** (High Honor Student).
- **Achievements:** Ranked 1st in the department in multiple semesters and maintained High Honor standing throughout the program.
- **Relevant Coursework:** Data Structures & Algorithms, Operating Systems, Machine Learning, Artificial Intelligence, Database Management Systems, Software Engineering, Computer Networks, Cryptography & Information Security, Object-Oriented Programming, Microprocessors (Assembly 8086).

LANGUAGES

- **English:** B2 (Upper-Intermediate) – Technical & Academic Proficiency.
- **Turkish:** Native.