

Egemen Bozca

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PROFILE

I am a graduate of Sakarya University Computer Engineering. Mobile application development and user-centered design are both a profession and a genuine passion for me; the applications I have developed are live on Google Play and the App Store. My curiosity about artificial intelligence technologies has driven me to competitions such as TÜBİTAK and Teknofest since high school, and during this journey I have achieved numerous accolades, including a world championship. Honesty and hard work are my core values; I aim to deliver every task I undertake at the highest quality.

TECHNICAL SKILLS

Mobile Development: React Native, Firebase (Auth, Firestore, Storage), Google Sign-In, Supabase

AI / ML: Python, YOLO v8, LLM, RAG, Agent Architecture, Image Processing

Other: Web Development, Algorithm Design, 3D Modeling, Project Management, UA0 & UA1 Piloting

EXPERIENCE

Freelance Developer, Independent 2025 – 2026

- 3 projects delivered on client request: Periodic Table TR/EN (React Native, live on Google Play), Game Hub mobile gaming platform (Java), and Poco--Loco e-commerce website (React/TypeScript, live on Vercel).
- End-to-end development, UI/UX design, Firebase/Supabase integration, and app store publishing processes were independently managed.

Individual Mobile Application Developer, Independent 2025 – 2026

- 3 personal applications developed with React Native and Expo: Looked: Digital Style Assistant (AI-powered fashion and wardrobe assistant, live on Google Play and App Store), WhatToDo (task management application, in development), and Optura (refrigerator and food inventory management, in development).

Intern, Smart Software A.S., Turkey June 2023 – September 2023

- A mobile application was developed using Flutter for a corporate client project; user interface components were designed and integrated.
- Contributed to the hardware prototype development process; testing and iteration were performed on the product's mechanical and electronic components together with the team.

PROJECTS

Web Projects

Poco--Loco E-Commerce Website (poco--loco.com) 2026

Built from scratch for a Turkey-based boutique bag brand, this e-commerce platform features a modern, mobile-friendly interface developed with Vite, React, TypeScript, and Tailwind CSS, along with database, authentication, and file storage infrastructure powered by Supabase. Iyzico payment integration, automated order and shipping notification emails via Resend API, multilingual (TR/EN) support, and SEO optimization were implemented. An admin panel covering order management, product and storefront control, shipment tracking, and GIB-standard Excel invoice export was included; the platform is deployed on Vercel.

Graduation Project

RAG-Based Academic Chatbot Specialized in Education 2025–2026

An LLM-based academic advisor system built on agent architecture. Combines Retrieval-Augmented Generation (RAG) and Text-to-SQL technologies to convert natural language queries into SQL, minimizing hallucination by

pulling context from user-uploaded PDF/Excel documents. Features intent classification (5 channels), self-correcting SQL generation, web browsing, and multi-LLM support (ChatGPT / Gemini).

Mobile App Projects

WhatToDo, Periodic Table, Looked, and Optura: React Native/Expo Game Hub: Java

WhatToDo Application [In Development] 2026

An application that lets users add day-specific tasks, categorize them by priority, and plan ahead for future days. Personal data is securely stored with Firebase and Google Sign-In.

Game Hub [Freelance] 2026

A mobile gaming platform developed as a freelance project featuring Tic-Tac-Toe, Checkers, and Chess. Users can play against AI or with friends offline on the same device.

Periodic Table TR/EN [Freelance] [Google Play] 2026

A mobile application where users can tap any element to access detailed information, photos, 3D and 2D Bohr models, and spectral lines. Includes a quiz covering the first 20 elements frequently tested in Turkish university entrance exams and a molar mass calculator for compounds.

Looked: Personal Style Assistant [Google Play] [App Store] 2026

An AI-powered fashion and wardrobe management application live on iOS and Android. Built with React Native and Expo, it offers clothing scoring, outfit suggestions, and context-aware wardrobe building via Gemini 2.5 Flash API. Backend runs on Firebase Authentication, Firestore, and Storage; subscriptions are managed by RevenueCat. Supports Turkish and English with a freemium model — premium users receive unlimited scans and an expanded wardrobe quota.

Optura: AI-Powered Refrigerator Management [In Development] 2025–2026

Originally started with Flutter in 2025, now being rebuilt with React Native/Expo. Users can photograph grocery receipts to add items to their inventory; expiration date tracking and recipe suggestions are provided. Receipt analysis is powered by GPT-4o Vision API; the data layer is built on Supabase.

AI & Hardware Projects

AI-Powered Underwater Vehicle for Marine Pollution Detection 2024–2025

An AI-powered integrated underwater-surface device developed for protecting marine ecosystems; pollutants in seawater are detected using custom sensors and cameras.

DepMap: Post-Earthquake Response Route Determination System 2023–2024

Analyzes visual data to compare a city before and after an earthquake, detects road closures, and determines optimal routes for emergency teams. Estimated building occupancy is relayed to search and rescue teams.

Teknofest AI in Transportation Competition 2023–2024

Aerial visual data processed with machine learning to detect people, vehicles, and landing zones on the ground. Visual positioning algorithms for GPS failure scenarios were also developed.

RoboChallenge AirRace – World Championship 2022

Autonomous flight software developed using YOLO V8 to enable a drone to follow lines placed between two poles.

Akdoğan: Wave & Solar-Powered Surveillance System – Turkey Finals 2022

Developed a system that powers offshore drone charging stations by converting the kinetic energy of ocean waves into electrical energy.

Teknofest Inter-High School UAV Competition – Turkey Runner-Up 2021–2022

A drone was designed, manufactured, and equipped with autonomous flight software for track-completion speed and cargo-drop precision missions.

AI-Powered Speed Limiter for Automobiles 2020

A system that reads speed limits from traffic signs via image processing and map APIs, then interfaces with the vehicle's ECU to prevent limit violations.

AI-Controlled Child Locks in Cars – Turkey Third Place 2019

Developed within TÜBİTAK scope. Children in the back seat are identified via facial recognition and weight sensors, and vehicle child locks are automatically controlled.

Serum Management System – Turkey Third Place 2019

The drip rate of patient IVs is controlled by motors, estimated depletion time is calculated, and an alert is sent to the nursing station.

LANGUAGES

Turkish – Native Language
English – Professional Working Proficiency (C1)
Spanish – Elementary Proficiency (A1)

EDUCATION

Computer Engineering, Sakarya University, 2022–2026
Afyon High School, 2018–2022
Dumlupınar Science and Art Center (BİLSEM), 2015–2022

CERTIFICATIONS

Teknofest University Students Research Project Competition Finalist – 2024 (Permanent)