Utku Alp Turen

Mobile-First Full-Stack Engineer

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A Full-Stack Engineer specializing in high-performance mobile applications and the scalable backend systems that support them. Delivered 6+ production applications for enterprise clients in the finance, health, and agriculture sectors. Proven expertise in developing machine learning solutions for complex engineering problems.

Work Experience

- **Mobile Application Developer** **July 2024 – Present**
  On Yazlm Danmanlk | *Adana*
  - Led the solo development of 3 Flutter-based mobile apps, integrating advanced UI features like custom animations, network resilience, and GoRouter-based navigation while collaborating directly with customers and UI/UX designers.
  - Architected and built a complete .NET backend monolith with PostgreSQL and MinIO S3, featuring secure authentication flows and REST APIs consumed by mobile and web clients.
  - Implemented robust MQTT-based messaging for a real-time application, handling connection management, automatic reconnections, and message decoding logic.
  - Mentored 3 interns on production workflows, creating an onboarding plan that improved their code-contribution readiness by 50% compared to the company average.

- **Mobile Application Developer Intern** **June 2024 – July 2024**
  On Yazlm Danmanlk | *Adana*
  - Fast-tracked from intern to full-time in one month by independently architecting and delivering critical MVP features that accelerated a client's time-to-market by an estimated 3 weeks.
  - Enhanced a Next.js and PostgreSQL dashboard for a web scraper system, implementing server-side rendering (SSR) and client-side hydration for dynamic data visualization.

- **Flutter Developer Intern** **July 2023 – September 2023**
  Kent Yazlm | *Adana*
  - Developed 5+ mobile applications using Flutter and Firebase, focusing on UI polish and state management with Riverpod and flutter_hooks.
  - Built and consumed REST APIs developed in C#/.NET Core for the Flutter projects.

Projects

- **Voyager – Full-Stack Social Media Application** **November 2023 – Present**
  A cross-platform social network for itinerary planning, live sharing, chat, and activity logging.
  - **Mobile Client (Flutter):** Engineered a highly fluid UI using Riverpod and flutter_hooks, elevating the user experience with hero animations, custom animated buttons, and a bespoke image picker. Implemented a dynamic theming system with customizable color palettes for enhanced user personalization. Built a resilient, offline-first architecture with ObjectBox, featuring custom data hydration for chat and seamless sync flows. Integrated FCM for push notifications with topic subscriptions and contextual navigation.
  - **Backend API (.NET Core):** Designed and documented a robust, layered ASP.NET Core API with JWT authentication, refresh tokens, and manual session revocation. Implemented a real-time chat system using a custom SignalR hub for low-latency communication. Built a secure password recovery system with email-based OTPs and created a notification system using background workers.
  - **Database & Search (PostgreSQL):** Developed a high-performance global search across multiple entities (users, posts, plans) using indexed PostgreSQL queries.

- **DevOps & Storage:** Architected a secure and scalable image handling system where clients upload directly to S3 using presigned URLs, completely bypassing the server to minimize backend load and improve performance. Utilized GitHub Actions for CI/CD and maintained Git hygiene with semantic versioning.

Academic Research

- **B.Sc. Thesis: Machine Learning-Based Reconstruction of Lost Acoustic Messages in UUVs June 2025**
  GitHub Repository: UtkuATuren/usvCommsSim
  - Co-authored a B.Sc. thesis focused on reconstructing lost command packets for Unmanned Underwater Vehicles (UUVs) in real-time, developing a software-defined strategy to address critical reliability gaps in underwater acoustic communication.
  - Engineered a custom, high-performance Python-based acoustic simulator from the ground up, complete with a full GUI for interactive control. The simulator modeled key underwater physics (e.g., Thorp absorption, Rayleigh fading) and generated a comprehensive dataset of over one million labeled communication events for model training.
  - Trained and evaluated LSTM, CNN, and Transformer architectures, demonstrating that a custom CNN model achieved the highest performance in predicting lost packet content with 90.8% command accuracy and 87.3% parameter recovery accuracy (within a ± 2 bin tolerance).
  - The resulting strategy enhances UUV mission safety and reduces latency from retransmission cycles, providing a new, validated benchmark for intelligent, loss-tolerant control systems in bandwidth-constrained underwater domains.

Skills

- **Mobile Development:** Flutter, Riverpod, flutter_hooks, GoRouter, ObjectBox, Firebase (FCM, Firestore)
- **Backend Development:** ASP.NET Core, .NET, C#, REST, WebSockets, MQTT, PostgreSQL, MinIO
- **Cloud & DevOps:** AWS (S3, EC2, SES, Rekognition), Git, GitHub Actions

Education

- **Çukurova University** – B.Sc. Computer Engineering **September 2022 – July 2025**
  Ranked 2nd in Department | GPA: 3.41
- **Abdullah Gul University** – B.Sc. Computer Engineering **September 2020 – June 2022**