Kaan Toraman

Information Systems Engineer

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I am a senior Information Systems Engineering student at Kocaeli University, expected to graduate in June 2025, currently ranked first in my department. Throughout my studies, I have gained hands-on experience in artificial intelligence, software engineering, and immersive technologies. I have developed end-to-end solutions in web, mobile, and game development using technologies such as Unity, React, .NET Blazor WebAssembly, Python, PostgreSQL, and MSSQL. I also have solid experience in backend development with .NET C#, including RESTful API design and database-driven systems. I have taken on technical and leadership roles in multiple research and development projects. I co-authored two IEEE-indexed academic papers with DOI references, both accepted for presentation at ICHORA 2025. I led the technical development of the LIFT UP decision support simulator in collaboration with TUSAŞ and contributed to Stajsis, an internship management system currently in active use at my university. I was also part of a patent-filed social project that uses computer vision to support children with autism. During my internships at Özka Lastik and Asewise Teknoloji, I worked on enterprise software tools and internal systems. I also published the mobile game JellyWop on the Google Play Store and was recognized as a finalist in the TEKNOFEST 2025 ICT category, demonstrating both my innovation and practical development skills.

Academic Publications

K. Toraman, E. Obuz, M. D. Kaya, and S. Solak, *"A Digitalized Business Wargame Model for Foresight-based Future Planning and Decision-Making,"* 2025 7th International Congress on Human-Computer Interaction, Optimization and Robotic Applications (ICHORA), Ankara, Türkiye, 2025, pp. 1–6. DOI: 10.1109/ICHORA65333.2025.11017175

E. Obuz, K. Toraman, and S. Solak, *"A Computer Vision-Based Physical Activity Application for Children with Autism,"* in 2025 7th International Congress on Human-Computer Interaction, Optimization and Robotic Applications (ICHORA), Ankara, Türkiye, 2025, pp. 1–4. DOI: 10.1109/ICHORA65333.2025.11017104

Experience

SEPTEMBER 2024 – JANUARY 2025

Software Engineer | Student Assistant| Özka Lastik ve Kauçuk Sanayi Ticaret Anonim Şirketi | Kocaeli, Türkiye

As part of my vocational training in the company, I worked as a student assistant within the software team. During this period, I developed the internal employee portal "Kanık Portal" and the "Visitor Occupational Health and Safety System" using .NET Blazor WASM and MSSQL. Additionally, I took part in the Forklift Tracking System project, which enables real-time monitoring of forklifts using ESP32.

JUNE 2024 – OCTOBER2024

Full Stack Developer| Part Time| Asewise Teknoloji Ltd. Şti. | Kocaeli, Türkiye

This is the position I started as an intern and then continued as a part-time Full Stack Developer. I developed a web application similar to KolayBi Online Pre-Accounting. Throughout the development process, I worked on both the frontend and backend using React, Vite, PostgreSQL, and JavaScript. I also integrated electronic invoicing (e-Fatura) features into the system using SOAP-based web services with SOAP UI.

FEBRUARY 2023 – MARCH 2024

Game Developer| Part Time | Aksoy Çözüm | Kocaeli, Türkiye

This is the position I began as an intern and later continued as a part-time Game Developer. During my time there, I developed a game called “JellyWop”, which was published on the Google Play Store. I also developed an online multiplayer game titled “HyperRunwayRace” as part of a KOSGEB project the company submitted to support the opening of a new game development office. In this project, I used Photon for multiplayer networking and integrated various Google services into the game..

My Projects and Volunteer Activities

MARCH 2023 – MAY 2025

Full Stack Developer | stajsis.com | Kocaeli, Türkiye

The internship system actively used within the Department of Information Systems Engineering and the Faculty of Technology at Kocaeli University was developed by a team of three, including myself. This project is a web service designed to simplify and improve accessibility for internship and vocational training applications, while also aiming to reduce paper waste. It is planned to be expanded for use across the entire university in the future. The project can be accessed via **stajsis.com**.

DECEMBER 2022 – JULY 2023

Scholar| Google Oyun ve Uygulama Akademisi | İstanbul, Türkiye

I was selected as one of 2,000 scholars for a program organized by Google aimed at gaining experience in game and application development. During this program, I received training in project management, game development, and app development. I took on the role of team leader and developer in the Game Jam/App Jam event. The project I developed as a game developer during the final bootcamp was selected among the top 25.

A Digitalized Business Wargame Model for Foresight-based Future Planning and Decision-Making (TUSAŞ LIFT UP Projesi)

As the project lead, I directed the development of a card-based strategy game simulating foresight-based decision-making using a digital business wargaming model. I handled game mechanics and UI in Unity with C#, and built two separate AI systems: one is a chatbot powered by a fine-tuned Gemma 2 9B model for dynamic scenario generation, and the other is a scoring system that evaluates open-ended user inputs using TF-IDF and semantic analysis techniques. Data was managed with PostgreSQL. The project is currently under evaluation by TUSAŞ LIFT UP teams, was selected as one of the 10 finalists in the Information and Communication Technologies category at TEKNOFEST 2025, and although our TÜBİTAK 2209-B application was approved by reviewers, it was later withdrawn due to another submission. An academic paper based on the project was presented at ICHORA 2025 and is now published with a DOI in the IEEE Xplore database.

A Computer Vision-Based Physical Activity Application for Children with Autism (2209-A TÜBİTAK Başvurusu)

As the developer of this project, I aimed to help children with Autism Spectrum Disorder acquire new skills through a game-based interactive system. Developed in collaboration with the Izmit Municipality Autism Sports and Life Center, the project uses camera input to map children’s real-time movements to customizable virtual characters, encouraging engagement through various activity-based scenarios. I built the system using Unity, Python, and C#, integrating OpenCV and MediaPipe for motion tracking and gesture recognition. A patent application has been filed for the technology, and an academic paper based on the project was presented at ICHORA 2025 and is now published with a DOI in the IEEE Xplore database.

20 MAY 2024

Buried Conquest | Proje Geliştiricisi |6. Doğu Marmara Uluslararası Proje Pazarı | Kocaeli, Türkiye

Buried Conquest is a rogue-like, deck-building strategy game where players build and upgrade a deck of unique cards to engage in tactical battles. Each card has distinct abilities, and as the game progresses, players unlock new cards, gain power-ups, and refine their strategies. I developed this game with a group of friends not only as a project but also as a startup attempt. We negotiated with Digiage until the final stages to launch the game under their publishing and incubation framework, but the deal fell through. Eventually, we presented the game at the 6th Eastern Marmara International Project Fair, where it passed the preliminary selection and was showcased as a finalist.

MACHINE LEARNING - Poetry Project

In this project, I collected Turkish poems using Selenium for text mining and applied NLP techniques to prepare and augment the dataset. I trained five transformer models—BERT, RoBERTa, DistilBERT, Electra, and GPT—to classify the poems by their literary movements such as Second New and Garip. The models were compared based on performance metrics like accuracy and F1-score, and the results were documented. This project aimed to combine modern language models with cultural and literary classification.

MY UNITY PROJECTS

Academy Invasion
A top-down action game developed with a team of five in 48 hours during the Google Game Jam. I contributed to gameplay logic and UI flow using Unity and C#.

Humanity Survival
A 3D action shooter developed in 30 days during Google's final Bootcamp, selected among the top 25 projects. I worked on enemy AI and scene transitions in Unity.

AstroAR
An educational AR project built with Unity and ARKit to teach young children about the solar system. Includes interactive quizzes and animated planetary models.

Class Schedule System with Augmented Reality
A mobile AR application developed using Unity, Vuforia, PHP, and SQL. Enables students and teachers to view and manage class schedules by scanning visual markers.

MY ANDROID PROJECTS

Fit4Less
A fitness-focused mobile app developed using Android Studio and Firebase. Features include a water intake reminder, food calorie checker, BMI calculator, and guided workout demonstrations. I handled UI/UX flow and integrated real-time database features for user tracking.

Inventory Control System
An Android app designed to manage product entries and perform warehouse inventory checks. Developed using Android Studio, PHP, and SQL, with a focus on CRUD operations, stock tracking, and local database syncing.

Voice-Guided Navigation System
Built with Android Studio and Google APIs, this app provides voice-controlled search and navigation functions tailored for visually impaired and elderly users. Includes text-to-speech, speech recognition, and adaptive accessibility features.

MatchIt
A web app developed using HTML, CSS, JavaScript, and PHP, deployed on AWS using Docker containers. Focused on cloud-based deployment and environment virtualization to manage scalable backend services.

Oyun Kutusu
An e-commerce website for board games, built with HTML, CSS, and JavaScript as part of a web design project. Emphasized frontend usability and clean product listing UI.

Umuttepe Turizm
A ticket sales and reservation system for a bus company, developed using the CodeIgniter framework and deployed on a live server. Integrated PHP-based backend logic with dynamic scheduling, form handling, and real-time availability updates.

Education

2021 – 2025 (PRESENT)
Kocaeli University – B.Sc. in Information Systems Engineering

Expected Graduation: June 2025 – GPA: 3.56 / 4.00

Ranked 1st in the department (top student)

Languages

Turkish – Native

English: Upper-Intermediate (B2) – actively used in academic writing, presentations, and technical documentation.
