

Emre Çapar

EMBEDDED SYSTEMS ENGINEER • WI-FI & IOT SYSTEMS • FULLSTACK DEVELOPER

+90 543 935 87 42 | ecapar515@gmail.com | www.kakumei-interactive.net | github.com/EmreCapar515

Computer Engineering graduate specializing in embedded systems and IoT connectivity, with hands-on experience across ESP32/Arduino, Firebase, Flutter, Python, and CUDA/GPU programming. I aim to design, test, and optimize connected home and networking products that deliver a reliable, seamless experience at scale.

EXPERIENCE

- Test & Measurement Products Intern — AirTies Wireless Networks**

İzmir • 2026

 - Gained hands-on knowledge of network devices and test systems
 - Built a type-checked, interactive web app that converted a static test-specification document into a structured, validated digital workflow
 - Developed a companion Python app with an interactive UI that consumed the web app's output to auto-generate device-specific Python test code
- Founder — Kakumei Interactive (Non-Profit)**

İzmir • 2022

 - Founded and maintained a developer identity to share projects with a global audience
 - Designed and released several games, full-stack applications, and open-source codebases for public access

PROJECTS

- Sentinel Smart Home** — Engineered an IoT smart home solution using ESP32, Firebase, and Flutter, enabling real-time remote environment control via mobile application over a Wi-Fi network.
- PromoBot** — Developed an autonomous rover using Python Flask, Arduino, and wireless network protocols, enabling real-time remote control via mobile application.
- Adaptive Spread Autotuning for Triangle Counting on GPUs** — Implemented a CUDA-based autotuning system for a GPU-accelerated triangle-counting pipeline, eliminating pre-configuration delay.
- IZT-92** — Built a 2D multiplayer social deduction game for up to 5 players using Unity and Firebase, featuring custom real-time networked gameplay systems.
- Tactica Eternum** — Developed a multiplayer card game using Python and Firebase, implementing a database-driven synchronization system that reduced network traffic.
- 8051 Microcontroller Projects** — Developed embedded systems projects, including a binary calculator, on the 8051 microcontroller, strengthening assembly and machine-level programming skills.
- Gel Project Manager** — Built a local-first Flutter desktop app for Windows and Linux with immutable SHA-256 snapshots, semantic versioning, goals, and a visual version map.
- Space Bandits & FocusTimer** — Designed a 2D PyGame title and a cross-platform Pygame/Kivy study-tracking app, delivering modern, intuitive UI/UX across both projects.

EDUCATION

B.Sc. Computer Engineering İzmir Institute of Technology • İzmir, Turkey	Sept 2021 – Jun 2026	Computer Science (Erasmus+) University of Primorska • Koper, Slovenia	Feb 2025 – Jun 2025
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SKILLS

- Wi-Fi & Wireless Networking
 - Embedded Systems & IoT
 - ESP32 & Arduino & 8051
 - Python, Java, C/C++, SQL
 - Firebase & Cloud Integration
 - Flutter & Mobile App Development
 - Flask & REST APIs
- GPU & CUDA Programming
 - Database Management (SQL/Oracle APEX)
 - Networking & Real-Time Systems
 - Software Systems Design
 - Project Management
 - Git

LANGUAGES

Turkish	Native
English	C1 (Advanced)

ACHIEVEMENTS

- Rector's Honor List**
University Entrance Examination (YKS), Top 7000 • **2020–2021**
- Dean's Honor List**
İzmir Institute of Technology • **2022–2023**
- Dean's High Honor List**
İzmir Institute of Technology • **2024–2025**