ATA KAAN CAN OLCAY

Computer Engineering · Embedded Systems & Edge-AI Software

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PROFESSIONAL SUMMARY

Final-year Computer Engineering student with internship experience at leading Turkish defense companies (BİTES, Meteksan Savunma). Focused on embedded software development in C, C++, and Python, and on optimizing convolutional neural networks (CNNs) for low-latency, low-memory inference on edge devices. Maintains an active open-source portfolio of systems projects — a from-scratch TCP/IP stack, an AArch64 RTOS, and INT8-quantized TinyML inference in pure C. Seeking an embedded software or edge-AI engineering role in the defense or high-tech sector.

TECHNICAL SKILLS

Programming Languages: C, C++, Python, Java · familiar with TypeScript/JavaScript, SQL
Embedded & Systems: bare-metal AArch64, RTOS development, TCP/IP networking, QEMU, Linux, Make/CMake, debugging & testing, performance optimization
AI / Machine Learning: CNN architectures, edge-AI model optimization, INT8 quantization, ONNX, inference performance tuning, OpenCV
Optimization: constraint programming with Google OR-Tools CP-SAT (scheduling, routing)
Tools & Workflow: Git & GitHub, code review, Spring Boot, FastAPI, PostgreSQL

INTERNSHIP EXPERIENCE

BİTES Jan 2025 – Feb 2025
AI / Software Engineering Intern · Ankara, Türkiye

- Researched and evaluated optimization techniques to improve the inference efficiency of classical CNN models on resource-constrained edge hardware.
- Explored trade-offs between model accuracy, latency, and memory footprint to identify viable edge-deployment strategies; contributed technical findings to ongoing AI capability projects in the defense domain.

Meteksan Savunma Aug 2024
Embedded Software Engineering Intern · Ankara, Türkiye

- Developed and tested embedded software components in C, C++, and Python within a defense-technology environment.
- Worked alongside engineers to debug, profile, and improve the reliability and performance of embedded modules.

Kodfu Jul 2023 – Aug 2023
Software Development Intern · Ankara, Türkiye

- Built and refined software solutions, improving code quality and execution efficiency; upheld coding standards through code reviews and met project deadlines as part of a team.

Nomatto Jul 2023 – Aug 2023
Software Development Intern

- Developed software features for project requirements; performed testing, debugging, and wrote clear technical documentation.

SELECTED PROJECTS (full portfolio: kncn23.github.io)

- **mini-tcp-stack** (C) — TCP/IP stack written from scratch: Ethernet, ARP, IPv4, ICMP and a full TCP state machine, with unit tests and a Linux TAP demo.
- **tinyml-keyword-spotting** (C, Python) — End-to-end TinyML keyword spotting: log-mel features, MLP training, INT8 quantization and a pure-C inference engine that matches the Python model exactly.
- **mini-rtos / mini-arm-os** (C, AArch64) — Bare-metal OS and RTOS on QEMU virt: boot assembly, UART driver, timers, context switching, round-robin and priority scheduling, semaphores.
- **OptiSchedule** (TypeScript, Python) — Constraint-programming university course scheduler built on Google OR-Tools CP-SAT, with PostgreSQL persistence and Excel export.
- **aes-sca-sim** (C) — AES-128 side-channel attack simulator: synthetic power traces and key recovery via Correlation Power Analysis.

EDUCATION

B.Sc. in Computer Engineering — Başkent University, Ankara Sept 2019 – 2026 (expected)

Relevant coursework: Data Structures, Algorithms, Object-Oriented Programming, Operating Systems, Computer Networks, Embedded Systems, AI / Machine Learning, Cryptography.

LANGUAGES & ADDITIONAL

Turkish — native · **English** — professional working proficiency
Athletics: former professional basketball player — strong teamwork, discipline, resilience, and composure under pressure.