Remzi Atasagun Poyrazoğlu

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Education

University of Amsterdam & Vrije Universiteit Amsterdam (Joint Degree) Amsterdam, Netherlands
M.Sc. Computer Science — Computer Systems & Infrastructure Track August 2026 – June 2028 (expected)

Bahçeşehir University Istanbul, Turkey
B.Sc. Computer Engineering September 2021 – June 2026

Bay Atlantic University (Exchange Semester) Washington D.C., USA
Software Engineering August 2024 – January 2025

Selected Projects

GEL — FPGA-Accelerated HFT Trading Platform (Capstone, team of 3) **2025 – 2026**

- Sole developer: wrote the entire codebase and shared the AWS F2 deployment work with a teammate
- Built a strategy-agnostic FPGA execution platform on AWS F2 (Virtex UltraScale+ VU47P); data plane written in C++ and synthesized to RTL with Vitis HLS, deployed and measured on real silicon at 80 ns compute latency (data-in → order-out, 20 cycles @ 250 MHz, on-chip counter), timing closed and bit-exact vs the C++ reference (500/500 vectors)
- Pipeline: ITCH parser → L2 order book → Avellaneda-Stoikov pricing (inventory-skew reservation price, volatility-adaptive spread) → risk/quote decision → OUCH order encoder; built as a pluggable engine designed to host multiple strategies
- Host/FPGA split: fast-path quoting in fabric, slow-path parameter calibration + regime detection on a C++23 host; drove worst-case timing from −4 ns to +0.1 ns via pipelining and a 64×64→34×32 multiply-width reduction

Autonomous Remote Control System for Agriculture **2026**

- End-to-end IoT solution for an agritech client: ESP32 firmware with MQTT telemetry, sensor integration, and real-time web dashboard; deployed in field with remote actuation

Publication

R. A. Poyrazoğlu et al., "Beyond Application Identification: Fine-Grained Activity Classification in Encrypted Mobile Traffic," IEEE SIU 2026. doi: 10.1109/SIU71813.2026.11636590

- Fine-grained activity classification on MIRAGE-APP×ACT-2024 (9 classes, incl. concurrent actions); multi-task learning for joint app-identity + activity prediction
- Supervisor: Asst. Prof. E. Gelal Soyak

Experience

Freelance Software Engineer **2024 – Present**

- Delivered 20+ web projects (Next.js, TypeScript, Supabase) and one end-to-end IoT system; full lifecycle from requirements to deployment

E-Corp — Co-Founder & C++ Developer **2021 – 2023**

- Built multi-threaded, lock-free C++20 trading engine with Binance live feed and ONNX ML inference on low-latency hot path

IEEE Computer Society, BAU — Instructor & Board Member **2022 – 2026**

- Designed and taught C++ workshops for 50+ peers; organized hackathons

Skills

Low-latency & Systems	C++20/23, Lock-free programming, Linux, CMake
Market Data & Protocols	ITCH, OUCH, L2 order book, market making, Avellaneda-Stoikov
FPGA & Hardware	Vitis HLS (C++ to RTL), AWS F2 (Virtex UltraScale+ VU47P), ESP32
Quantitative	Python, NumPy, pandas, scikit-learn
Web & Cloud	Next.js, TypeScript, PostgreSQL, Supabase, AWS
Other	Git, MQTT
Languages	Turkish (Native), English (C1), Dutch (A1)