

Mete Aksoy

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Education

Delft University of Technology, BSc in Computer Science and Engineering Delft, NL

- **Coursework:** Object Oriented Programming, Functional Programming, Computer Networks, Computer Security

Work Experience

Software Engineering Intern, Dutch Ministry of Defense, KIXS IT Innovation Unit Amersfoort, NL

- Developed AR-HUD systems on the **Magic Leap 2** platform. Implemented spatial anchoring for data overlays in dynamic and low-light conditions using **Unity**, integrated with **HLA-based** simulation software via **Pitch pRTI**.

Software Engineering Intern, PYM Automotive Istanbul, TR

- Supported the development and automation of software tools for automotive remanufacturing machinery, improving system efficiency and data tracking process by 8%.
- Collaborated with engineers to enhance machinery diagnostics and design workflows using **Python** and CAD-based tools.

Projects

LOB-Engine (Limit Order Book)

- Built a high-performance limit order book in **C++**, optimized for efficiency with $O(1)$ order cancellations and $O(\log N)$ insertions supporting various types of orders.f

SPSC Ring Buffer

- Built a lock-free, wait-free Single-Producer Single-Consumer ring buffer in **C++20**, targeting low-latency **HFT** workloads on **x86-64** that eliminates cross-core cache coherence traffic via a cached index optimisation.
- Prevented false sharing by isolating producer and consumer state onto separate **64-byte cache lines**.

Housing Monitor Bot

- Built an automated housing listing monitor in **Python**, detecting new entries via API polling and sending real-time email alerts via **AWS EC2**.
- Integrated **Selenium** to automate applications to new listings after verifying compliance with `robots.txt`.

Nexus — API Gateway

- Built a production-grade API gateway in **Go** exposing a unified **GraphQL** and REST API over GitHub and **IBKR Client Portal**, with Redis caching and singleflight stampede prevention.
- Implemented JWT auth with refresh token rotation, sliding-window rate limiting, and a **circuit breaker** to protect upstream services under load.

Integration of Trading Platform with Proprietary Options Application

- Developed a system in **Python** integrating **InteractiveBrokers** with a proprietary options trading application.
- Provided real-time critical stock option data including price, volatility, and **Greeks** via high-throughput data streams.

Splitser

- Implemented a group expense-settlement system using **Java Spring Boot** with a REST API and **JavaFX** client.

Data Mining Algorithms

- Applied dimensionality reduction (**SVD**), clustering (**K-Means++**, **DBSCAN**), and anomaly detection (**Isolation Forest**) using **NumPy** and **scikit-learn**.