MOHAMED HAMED

Budapest, Hungary | +36 20 625 5724 | mohamedus.1970.hm@gmail.com
mohameddhamed.github.io | linkedin.com/in/mohameddhamed | github.com/mohameddhamed

ENGINEERING EXPERIENCE

SAP Budapest, Hungary
Application Developer Sep 2026 – Present
- Fixed a duplicate-key defect in an application within the SAP HANA ecosystem by implementing a data migration and a uniqueness constraint.
- Contributed to data center observability tooling by integrating NetBox DCIM data and live power telemetry with Three.js rack and room visualizations.

Software Developer → Backend Developer Aug 2025 – Aug 2026
- Refactored legacy ABAP business logic into Java services using SAP CAP and Spring Boot, with domain modeling and structured error handling.
- Implemented REST/OData v4 endpoints and CDS domain models in SAP CAP Java with SAP HANA persistence. Built automated API tests and integration checks to catch regressions.
- Remediated vulnerabilities in npm dependencies and extended CodeQL coverage to the TypeScript frontend.

ExxonMobil Budapest, Hungary
Automation Developer → Full Stack Developer → Backend Software Developer Jun 2023 – Jul 2025
- Designed and implemented a Spring Boot workflow for AI-assisted document analysis, using background jobs and polling endpoints for status and results.
- Built document intake APIs with Spring MVC and configured Spring Security filter chains for role-based access control (RBAC).
- Designed relational persistence models with JPA/Hibernate to manage asynchronous processing job lifecycles, execution states, and structured JSON responses.
- Migrated internal vulnerability management services to .NET Core, updated SQL Server schemas, indexes, and scan-history queries, and supported the AWS migration.
- Developed full-stack configuration and automation tooling using TypeScript, Next.js, and Node.js with CI/CD deployment automation pipelines across MongoDB and relational databases.

Eötvös Loránd University (ELTE) Budapest, Hungary
Teaching Assistant | Telecommunications & Network Protocols Sep 2025 – Present
- Lead undergraduate networking labs covering TCP/UDP sockets, I/O multiplexing, and protocol framing.
- Mentor undergraduate computer science students on systems fundamentals, memory management, ownership semantics, and concurrent server architectures.

EDUCATION

Eötvös Loránd University (ELTE) Budapest, Hungary
Master of Science in Computer Science – Software Architecture Jan 2027
Bachelor of Science in Computer Science Jun 2025 Average: 4.47

SELECTED PROJECTS

Java Virtual Threads Benchmarking Framework (M.Sc. Research)
- Built a Spring Boot MVC benchmark using k6 and JDK Flight Recorder to compare Java virtual thread scheduling and lock contention.
- In six Java 21 runs, switching to `ReentrantLock` reduced recorded pin events from 108 to zero per run. Throughput stayed near 2 requests/s because both locks serialized the same 500 ms operation.

RESP Storage Engine — Concurrent In-Memory Server (Go)
- Built a concurrent in-memory key-value store with RESP2 command handling, per-connection `MULTI`/`EXEC` queues, and replication. Race-enabled tests reported no races in the tested paths.

Parallel Code — Collaborative Editing for VS Code (B.Sc. Thesis)
- Built a TypeScript extension for real-time collaborative editing in VS Code using Yjs and a WebSocket server.

TECHNICAL SKILLS

- **Programming:** Java (Java 21 LTS, Java 17), Go, SQL, Python, TypeScript, C#, Modern C++ (C++20), Rust, C
- **Backend & Frameworks:** Spring Boot 3, SAP CAP (Java), Spring MVC, Spring Security, RESTful APIs, Microservices, JPA / Hibernate, Node.js, Express.js, ASP.NET Core
- **Architecture & Concurrency:** Asynchronous Workflows, Project Loom (Virtual Threads), Concurrency Primitives, Distributed Systems, Clean Architecture, Domain-Driven Design (DDD), Legacy Modernization
- **Databases & Storage:** SAP HANA, PostgreSQL, MSSQL, Redis, MongoDB
- **Cloud & Tooling:** Docker, AWS, GitHub Actions (CI/CD), Linux, Git, Terraform, Ansible, CodeQL SAST
- **Spoken Languages:** English and French (fluent), Arabic (native)