

MARKO VUJIC

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EDUCATION

KTH Royal Institute of Technology, Stockholm

August 2023 - June 2026

B.Sc. in Computer Science & Engineering

Relevant coursework: Algorithms and Data Structures, FullStack Development and DevOps, Object Oriented Programming, Computer Engineering, Operating Systems, Database Technology, Project Course in Application Development, Mobile Applications and Wireless Network.

EXPERIENCE

Avanade

March 2026 - Present

Developer

Stockholm, Sweden

- Developed a control portal for Microsoft Azure integrations using React and TypeScript for the frontend and ASP.NET Core for the backend.
- Collaborated in a team of four students with Avanade to design and build the Azure integration control portal.
- Integrated PostgreSQL, Microsoft Entra ID, OAuth 2.0, Azure Service Bus and Azure Logic Apps.
- Implemented JWT validation and Role-Based Access Control within a Clean Architecture structure to support scalable traceability.

PROJECTS

Medical Records System | KTH

Oct 2025 - Dec 2025

University Project

- Developed a medical records system with a React frontend and Spring Boot backend.
- Implemented support for records, diagnoses, appointments and messages using PostgreSQL and Keycloak.
- Used Docker and Kubernetes in a microservices architecture.
- Used Reactive Quarkus for medical image search and API testing.

AI Firewall for LLM Applications

Personal Project

- Built a provider-agnostic security gateway between applications and LLM providers that inspects prompts, responses and tool calls, returning ALLOW, REVIEW or BLOCK decisions with a risk score.
- Implemented layered detection using YAML-configured rules, semantic similarity with sentence-transformers (all-MiniLM-L6-v2), a local LLM judge via LM Studio and Redis-backed session risk tracking.
- Added defenses aligned with the OWASP Top 10 for LLM Applications (2025), including prompt injection, sensitive information disclosure, improper output handling, excessive agency, system prompt leakage and unbounded consumption.
- Built with FastAPI, Pydantic, PostgreSQL, Redis, SQLAlchemy 2.0 and provider connectors for mock testing, LM Studio, OpenAI and OpenRouter.

TECHNICAL SKILLS

Programming Languages: C, Java, C#, JavaScript, TypeScript, Python

Frameworks & Libraries: React, .NET / ASP.NET Core, Node.js, Spring Boot, Quarkus

Databases: SQL, NoSQL

Cloud & DevOps: Microsoft Azure, Docker, Kubernetes, Git, GitHub, CI/CD

Backend & Security: REST APIs, Kafka, Microsoft Entra ID, OAuth 2.0, JWT, Keycloak

AI & Data: NumPy, pandas, Scikit-learn, PyTorch, Machine Learning, NLP, Deep Learning, LLMs

Operating Systems: Linux, Windows

CERTIFICATIONS / RELEVANT COURSEWORK

Machine Learning | KTH

Data analysis and model development with NumPy, pandas, Scikit-learn and PyTorch, including supervised and unsupervised learning, NLP, deep learning, preprocessing, visualization and model evaluation.

Full-Stack Development and DevOps | KTH

Layered architecture, microservices and system management using Node.js, Quarkus, Spring, Hibernate, SQL/NoSQL, Docker, Kubernetes and CI/CD.

CCNA v7 | Cisco

Configured switches, routers and end devices; built small-scale networks using security best practices, IPv4/IPv6 addressing and connectivity verification.

LANGUAGES

Swedish | English | Serbian/Croatian

INTERESTS

Gaming, working out and spending time with friends and family.