

Rezene Hagos Gebreslassie

Senior Backend Engineer | Java · Node.js · Microservices · Kafka | AI Engineering · Application Security
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PROFESSIONAL SUMMARY

Senior backend engineer (EngD) with 10+ years of software experience across Java and Node.js backends, including about seven years of production work on Spring Boot and Hibernate. Led backend engineering for high-volume platforms, including a national insurance platform serving 1,000+ agencies and processing 3,000+ policies daily, which I re-architected from a single-client system into multi-tenant microservices with an in-house API gateway and SSO/RBAC layer, while it stayed live. I now apply these fundamentals to AI engineering and application security: SecEvalAgent, a multi-agent security reviewer for the developer workflow; RAG pipelines grounded in MITRE ATT&CK at TU/e; and, at ASML, a FastAPI and PostgreSQL benchmarking platform for security tooling.

PROFESSIONAL EXPERIENCE

Full Stack Developer (Product Security Engineer) | [ASML](#) · Veldhoven, NL 11/2025 – 10/2026

- Designed and developed an antimalware benchmarking framework for security tooling: a FastAPI backend with PostgreSQL for storing evaluation data and results, and a Streamlit interface for engineers and security stakeholders.
- Built a data-driven, MITRE-aligned methodology that scores tools against threat landscapes and system constraints, with resource-consumption analysis proving zero-footprint operation in production.
- Acted as technical bridge between corporate security and product engineering teams, turning requirements into backend services and engineering controls.

Technology Stack: Python, FastAPI, PostgreSQL, Streamlit, BDD, TDD

AI Engineer | [TU Eindhoven \(SEC Group\)](#) · Eindhoven, NL 08/2025 – 10/2025

- Designed and productionised a RAG pipeline for Autoflow, a security team's incident-log software, grounding LLM output in MITRE ATT&CK over a vector database, with knowledge updates that need no retraining.
- Built systematic LLM evaluation with DeepEval (faithfulness, relevancy) and G-Eval (coherence, consistency, fluency); benchmarked five candidate LLMs for local deployment and selected Qwen3-4B, which matched a 20B model on coherence at a fraction of the resource cost.

Technology Stack: Python, LLMs, ChromaDB, LM Studio, DeepEval, Elasticsearch

Software Architect | [ASML](#) · Veldhoven, NL 05/2025 – 07/2025

- Led the architectural design of a unified IDE extension integrating fragmented model-based testing (MBT) toolchains into a single developer workflow.
- Improved stability and security by refactoring internal communication from WebSockets to standard I/O (stdio); integrated the Language Server Protocol and BPMN4S modeller for real-time in-IDE validation.

Technology Stack: Java 21, Python, TypeScript

Software Designer & Test Manager | [Mind Your Pass](#) · Eindhoven, NL 02/2025 – 03/2025

- Designed and engineered a high-security cryptographic integration bridging patented vaultless password technology with decentralised crypto wallets, delivering a validated PoC that translates 256/512-bit entropy into BIP-39 mnemonics.
- Secured the development pipeline by integrating SonarQube for static application security testing (SAST), code quality analysis and real-time vulnerability detection.

Technology Stack: Python, TypeScript

Lead Backend Engineer | [Medco Technology Solutions PLC](#) · Addis Ababa, ET 12/2022 – 10/2024

- Designed and deployed the insurance platform [niscofetap.com](#), supporting 1,000+ agencies and 50+ branches and processing 3,000+ new insured persons daily.
- Re-architected a legacy single-client system into a resilient multi-tenant microservices platform, building the Node.js API gateway (with Redis caching) and the identity/access management layer (authentication, authorisation, SSO, RBAC) in-house.
- Directed technology stack selection (Java, Node.js, Python, Vue.js) and deployed solutions across hospitals, pharmacies and insurance companies.

Technology Stack: Node.js (API gateway), Java (Spring Boot), Hibernate, JPA, Redis, Vue.js, MongoDB, PostgreSQL, TDD, AWS (EC2, S3, RDS)

Lead Backend Engineer | [Twinsoft Technologies](#) · Mekelle, ET 02/2019 – 11/2022

- Led backend engineering across projects, with code review, automated testing and live alerting for 24/7 uptime.

Engineered the backend for a regional COVID-19 Laboratory Information System automating 5,000+ daily test results, plus a tracking and surveillance platform for regional health authorities.		
<i>Technology Stack:</i> Java (Spring Boot), Vue.js, Node.js, React.js, TypeScript, MongoDB, PostgreSQL, TDD		
Senior Full Stack Developer	Medco Technology Solutions · Mekelle, ET	03/2017 – 01/2019
- Architected and deployed an enterprise interoperability mediator using OpenHIM/OpenHIE frameworks, enabling secure, real-time data exchange across hospitals and regional Health Information Exchanges (HIEs). - Designed and developed a comprehensive hospital EMR and e-prescription system, digitising clinical workflows and accelerating point-of-care decision-making for healthcare providers.		
<i>Technology Stack:</i> Java (Spring Boot), Hibernate, JPA, Node.js, TypeScript, React.js, PHP, MySQL, MongoDB		
Full Stack Developer	Mekelle University · Mekelle, ET	02/2013 – 02/2017
- Automated material planning, logistics and QA/QC workflows across 10 warehouses and 8 production lines. - Built a custom end-to-end ERP system for a construction company, from bidding to project completion. - Built network monitoring with real-time device failure detection and remote configuration, reducing downtime.		
<i>Technology Stack:</i> PHP, JavaScript, Java, Aglets, MySQL		
SELECTED PROJECT		
SecEvalAgent — AI application security reviewer	Personal Project	2026
- Multi-agent pipeline in which a detector agent proposes vulnerabilities and an independent verifier tries to disprove each one; findings must cite code evidence, valid CWE ids and retrieved sources (OWASP, MITRE ATLAS). - Runs in the AppSec workflow as a GitHub Action (PR annotations, SARIF, merge gating on verified findings only), plus a CLI and a triage UI that suppresses repeat false positives. - Hardened against prompt injection; on a 53-sample labelled benchmark: F1 0.86 (precision 0.78, recall 0.97), resisting 10 of 11 injection attacks.		
<i>Technology Stack:</i> Python, FastAPI, Claude API, ChromaDB, SQLite, React/TypeScript, Docker, Kubernetes, GitHub Actions		
EDUCATION		
EngD in Software Technology	Eindhoven University of Technology (TU/e) · Eindhoven, NL	10/2024 – 10/2026
MSc in Computer Engineering	Mekelle University · Mekelle, ET	10/2014 – 03/2017
BSc in Electrical and Computer Engineering	Mekelle University · Mekelle, ET	10/2008 – 07/2012
AWARDS & VOLUNTEERING		
Grand Challenges Ethiopia Competition — Awardee	Armauer Hansen Research Institute (AHRI) · Ethiopia	2020
Awarded \$10,000 in an open national competition for a solution on adolescent sexual and mental health.		
Co-founder & Volunteer, Being Human for Humanity (BHFH) · 2021 – Present · NGO empowering women and children in need in Ethiopia.		
TECHNICAL SKILLS		
Backend Java, Node.js, Python, Spring Boot, Hibernate (JPA), Spring Cloud, FastAPI, REST APIs	Distributed systems Microservices, API gateways, Redis caching, event-driven architecture, Apache Kafka, multi-tenancy, SSO/RBAC	
Databases PostgreSQL, MySQL, MongoDB, Redis, Elasticsearch, Kibana	Cloud & DevOps AWS (EC2, S3, RDS), Azure, Docker, Kubernetes, CI/CD, GitHub Actions, TDD, BDD (Cucumber)	
AI engineering LLMs, multi-agent pipelines, RAG, vector databases, tool calling, DeepEval/G-Eval, Claude API & Anthropic SDK, LangSmith, LM Studio	Security SAST (SonarQube, Semgrep, SARIF), OWASP Top 10, MITRE ATT&CK & ATLAS, IAM (SSO, RBAC), prompt-injection defence, applied cryptography	
Frontend & other TypeScript, JavaScript, Vue.js, React; PHP, C++, MATLAB	Ways of working Agile delivery on Jira, code review, technical leadership, mentoring, DevSecOps; Claude Code and Copilot daily	
Domains Healthcare & digital health, insurance, security & threat intelligence, high-tech manufacturing	Languages English (proficient), Dutch (beginner), Tigrigna and Amharic (native)	