

Hakan Ates

+39 320 025 5334 | hakan.a.tech@gmail.com | linkedin.com/in/hakan-ates | github.com/ateshakan |
ateshakan.com | Avezzano, Italy

SOFTWARE ENGINEER | PRODUCTION AI & FULL-STACK SYSTEMS

Software engineer focused on production AI systems. Main architect of the platform behind procedimentipa.gov.it, the Italian government's public catalog of ~700 administrative procedures, built for the ~20 legal experts who direct and review its AI drafting. Also raised a production extraction agent from 0.51 to 0.87 on golden-set evaluation, and led a US startup's product from mid-build to a production launch with Stripe payments in ten weeks.

WORK EXPERIENCE

Go Project

Feb 2025 - Present

Software Engineer

Rome, Italy

- On a five-person team, served as the main architect of the backend and knowledge graph and the primary author of the frontend, AI service, and search engine.
- Architected the five-service production platform (FastAPI, LangGraph, React, PostgreSQL/pgvector, nginx) behind procedimentipa.gov.it, used by ~20 legal experts to maintain a public catalog of ~700 administrative procedures.
- Designed legislation-grounded AI workflows that reduced procedure research and drafting from days to hours; replaced unreliable legal RAG with an expert-curated Normattiva/EUR-Lex tree that constrains drafts to expert-selected legal provisions.
- Built the public search service solo, combining semantic, full-text, and trigram retrieval through Reciprocal Rank Fusion, with graceful fallback when embeddings fail.
- Built a nightly legislative change-detection system that diffs tracked laws node by node, identifies changes down to a paragraph, maps them to affected procedures, and notifies subscribers.
- Built LMnetwork, a prompt optimizer using golden datasets and LLM-as-judge evaluation that improved a production extraction agent's mean judge score from 0.51 to 0.87.
- Built an internal CV search engine indexing ~1,000 candidate profiles, with fully local OCR and LLM extraction plus hybrid Elasticsearch retrieval so personal data never leaves company infrastructure.

The Dopple Registry (US startup)

Mar 2026 - May 2026

Consulting Technical Lead

Remote

- Part-time consulting contract as technical lead for a two-engineer team, combining architectural direction with hands-on delivery.
- Took over the product mid-build and led it to a production launch (reg.thedopple.com) with Stripe payments approximately ten weeks later.
- Replaced error-prone partner-benefit balance snapshots with an append-only transaction ledger, recording reservations, captures, releases, and refunds explicitly so failed or canceled payments no longer silently distort campaign budgets.
- Reduced recurring infrastructure, developer-tooling, and email costs by approximately \$2,350-\$3,150 per month through local Docker development, on-demand agent documentation, and a SendGrid-to-Brevo migration.

Dishup

May 2024 - Nov 2024

Software Engineer

Avezzano, Italy

- Built and shipped a cross-platform Electron bridge and bilingual UI that unified EPSON, CUSTOM, and AXON fiscal printers behind one local API for Dishup's restaurant point-of-sale product.
- Integrated Fatture in Cloud APIs for electronic invoicing and restaurant-customer management.

Breathment

Oct 2023 - Apr 2024

Backend & ML Engineer, Erasmus+ Intern

Munich, Germany

- Digital-health startup in the TUM incubator, working alongside its founders and TUM students; the CE-marked platform delivers remote respiratory physiotherapy through a patient-facing application.
- Built the production asyncio and Socket.IO pipeline that buffered live video in Redis, analyzed exercise windows with TensorFlow on a GPU server, and returned feedback through Breathment's patient-facing product.
- Adapted MTTs-CAN for contactless heart- and breathing-rate estimation, stabilizing raw video signals with bandpass filtering, the Hilbert transform, and Welch's method before integration into the patient app.

Akamas

Jul 2023 - Sep 2023

Research Intern

Milan, Italy

- Researched gray-box and black-box optimization for application performance and cloud-cost optimization after placing third in Moviri's performance-engineering competition at the University of Padua.

SELECTED PROJECTS

Each project name links to an in-depth write-up | more at ateshakan.com/projects

Scriba Harness Human-gated AI editing

Designed and prototyped an agentic editing system for official administrative procedures where each task runs in an isolated git worktree, every proposed change is reviewed as a diff, and only an officer-approved merge can reach the record.

AiCorsi AI course platform

Built the AI layer solo in approximately two weeks: a six-stage LangGraph pipeline that turns course PDFs into podcasts, quizzes, and grounded chat. A measured run produced a five-minute two-host episode in ~4 minutes.

md-italia Accessible government publishing

Built the Markdown renderer and CodeMirror 6 authoring editor that removed manual re-entry from procedure publishing; hundreds of real procedures have been rendered into accessible portal-ready pages.

ERMS Tamper-evident document registration

Led development of an internally used document-registration system that replaced a manual workflow with sequential protocol numbering, encrypt-then-MAC storage on S3, and tamper-evident daily registers.

Rec4Dish MSc thesis and Dishup research

Trained a hybrid LightFM recommender on 3,055 real restaurant orders, reaching Precision@5 of 31.8% versus a 9.2% random baseline (3.5x) and 32.4% on a strict cold-start holdout.

EDUCATION

M.Sc. ICT for Internet and Multimedia Engineering University of Padua, Italy

2021 - 2024

Cybersystems track; thesis on hybrid restaurant recommendation systems.

B.Sc. Geoinformatics Engineering Hacettepe University, Ankara, Turkey

2016 - 2020

Geospatial data analysis, remote sensing, and image processing.

SKILLS

Languages: Python, TypeScript, JavaScript, SQL, Java

AI / ML: LangGraph, LangChain, TensorFlow, PyTorch, embeddings, vector search, harness engineering, prompt optimization

Backend / Data: FastAPI, Flask, Django, NestJS, Node.js, PostgreSQL, Redis, Elasticsearch, Stripe, WebSockets, server-sent events

Frontend: React, Next.js, Angular, Ionic, HTMX

Infrastructure / Quality: Docker, AWS S3, DigitalOcean, nginx, GitHub Actions, GitLab CI, Playwright, pytest

Spoken Languages: Turkish, English, Italian