# Kamyar Shahrestani

**Staff Software Engineer | Platform & Applied AI**

**German citizen (EU passport) — no visa, work permit or sponsorship required · Based in Germany and Ireland**

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## Profile

Staff Software Engineer with six years at Finlex, a regulated insurtech platform, where I own architecture across a multi-tenant, white-label stack and was part of the team that took a multi-agent system on Amazon Bedrock to production. I build and operate production systems end to end, and work with AI coding tools every day — gating what they produce with tests, evals and CI checks.

Outside work, I designed, built and run Receipts Manager alone — a Python/FastAPI platform with its own OAuth 2.1 authorization server, an MCP server that outside AI agents call, and a Gemini agent on Vertex AI — a product I own end to end, from data model to the CI/CD that ships it.

## Professional Experience

**Finlex GmbH — Frankfurt, Germany** | Staff Software Engineer — Platform Architecture | Apr 2020 – Present

*Senior Solution Engineer (2020) → Technical Lead, Frontend (2020–2022) → Staff Software Engineer (2023–present)*

- **Production AI:** Part of the team that took a multi-agent AI system from concept to production on Amazon Bedrock, in one of Europe's most heavily regulated industries.
- **Architecture ownership:** Own architecture across the stack of a multi-tenant, white-label platform — TypeScript and React micro frontends through Ruby, Node and Python services.
- **Cross-team delivery:** Led six cross-team projects across application, policy and quote-to-bind, including an org-wide migration from Bitbucket to GitHub across five teams that carried a repository naming standard, CI and AI-assisted code review with it.

- **Event-driven systems:** Built a role-aware renewal portfolio dashboard on event-driven aggregation over SNS/SQS with MongoDB pipeline tuning; rebuilt a legacy Angular contract view as a React micro frontend.
- **Reliability:** Drove error-signal quality across platform services — log-level hygiene, source maps for crash localisation, bounded retry for transient failures, and removing PII from payload logging.

**Night Agent** — internal multi-agent coding system, built at Finlex (private repository)

Owned and built an internal multi-agent coding system (private repo) that reports to a real test suite: each task runs in its own worker and git worktree, and only work that passes the project's test command merges. Built to solve specific Finlex problems; one of several recent pieces of my work there, not the centre of it.

## Side Project

**Receipts Manager** | Solo developer and operator | Sept 2025 – Present | [receipts-manager.com](receipts-manager.com)

Personal-finance product, live with real users: FastAPI API on Cloud Run, Firestore, an Expo app for iOS, Android and web, and an AI agent. I own the data model, interface, infrastructure, delivery and operations.

- **An API other agents call.** MCP server (46 tools) over remote HTTP, with its own OAuth 2.1 authorization server (PKCE, dynamic client registration, rotating tokens). Tool calls reuse the same auth, scope, rate-limit and audit path as the REST API.
- **Agent runtime.** Google ADK agent on Vertex AI (Gemini), acting as the user through short-lived per-session tokens, with SSE streaming. Extraction costs ~$0.003 per receipt and the region serves first byte in ~0.10 s; every turn logs its cost and latency.
- **Delivery & operations.** GitHub Actions pipeline with tests as a gate (~3,500 backend, ~1,000 app), two isolated GCP environments, Workload Identity Federation (no stored keys), least-privilege IAM, and an agent eval suite with 27 pass/fail gates on every PR.

*Stack: Python, FastAPI, GraphQL, MCP, OAuth 2.1, Google ADK, Vertex AI, Gemini, Firestore, Cloud Run, GitHub Actions, Docker, Expo / React Native, TypeScript.*

**Job Frame GmbH — Mainz, Germany** | Senior Full Stack Web Developer | Dec 2018 – Dec 2019

- Built Angular applications test-first, reducing defects by 30%.

- Developed APIs with .NET Core and MongoDB; deployed to Azure with full CI/CD automation.

**Various Companies — Tehran** | Senior Developer & Technical Designer | 2011 – 2018

- Led full-stack delivery of booking platforms and financial tooling across finance, travel and e-commerce (ASP.NET, Angular, SQL Server, Power BI).

## Core Technical Skills

- **AI agents & LLMs:** MCP servers (remote Streamable HTTP, OAuth flows), Google ADK on Vertex AI Agent Engine, Gemini, Amazon Bedrock multi-agent systems, LangGraph, agent eval suites in CI, SSE streaming, cost and latency tracking per run.
- **Backend:** Python (FastAPI), REST and GraphQL, Node.js / NestJS, Ruby, .NET Core, Firestore, MongoDB, SQL Server.
- **Frontend:** React, React Native / Expo, TypeScript, Angular, Nx monorepos, Tailwind CSS.
- **Cloud & delivery:** GCP (Cloud Run, Firestore, Secret Manager, Workload Identity Federation, Artifact Registry), AWS (Bedrock, SNS/SQS), Azure, Kubernetes, GitHub Actions, Docker, Datadog. IaC through AI coding tools (Terraform, provisioning scripts).
- **Security:** OAuth 2.1 / PKCE, least-privilege IAM, tenant and workspace isolation, audit logging, secret scanning.
- **Testing:** pytest, Jest, Cypress, Playwright, LLM eval gates.
- **Architecture:** Multi-tenant white-label platforms, Domain-Driven Design, Clean Architecture, Micro Frontends.
- **Languages:** TypeScript, Python, Ruby, C#.

## Education & Languages

- **B.Sc. Computer Engineering:** Azad University, Karaj — degree recognised by ZAB.
- **English:** Full professional proficiency.
- **German:** Professional working proficiency.