

HALIL IBRAHIM KURNAZ

AI Software Engineer

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PROFESSIONAL SUMMARY

AI Software Engineer specializing in agentic AI ecosystems, backend architecture, and production-ready GenAI platforms. Proven track record of architecting scalable RAG pipelines, multi-agent orchestrations, and robust tool-calling workflows, bridging raw LLM capabilities to enterprise-grade applications and delivering full-stack AI-native products from concept to deployment.

WORK EXPERIENCE

Product Management Bootcamp Participant, TurkNet (turknet.net.tr) — September 2026 – November 2026

- Participating in TN Product Bootcamp, a 6-week program (started September 28, 2026) delivered through live sessions led by industry practitioners across product management, artificial intelligence, and career development.
- Studying product management foundations: the role and responsibilities of a product manager, cross-functional collaboration with software, marketing, sales, and UX teams, and the full product lifecycle (Discovery → Development → Delivery → Growth → Retirement).
- Covering customer discovery and user journey mapping, problem definition, Agile/Scrum ways of working, prototyping and MVP scoping, launch strategy, API and integration fundamentals, and product security.
- Exploring AI in product management: AI fundamentals, AI ethics, everyday AI products, no-code AI tools, and identifying which customer problems AI can effectively solve.
- Culminating in a team-based case study and workshop, defining a problem, designing a solution and value proposition, and delivering a final product pitch with demo and prototype flow.

Backend AI Engineer Intern, FlyRank AI (flyrank.ai) — June 2026 – September 2026

- Architected AI-native backend services implementing custom RAG pipelines and multi-step tool-calling workflows, with graceful degradation and fallback paths so external-provider failures never drop a request.
- Engineered resilient REST APIs across 7 modular services and 13+ endpoints, enforcing schema-level input validation (Zod/Pydantic), per-IP and per-resource rate limiting, and tenant isolation; covered the critical paths with 22 integration tests.
- Built custom evaluation benchmarks for LLM output quality, moved long-running work off the request path into background workers (HTTP 202 + job polling), and added retry-with-backoff (up to 3 attempts) and lock-based idempotency to keep API responses fast under load.
- Shipped 5 production-pattern backend projects across the Backend Track — a multi-tenant widget platform, an asynchronous PDF reporting pipeline, a background job queue, a CRUD API with Supabase Auth, and a RAG-corpus scraper (see Key Projects).

AI Engineer, AI Business School (aibusinessschool.com) — November 2025 – February 2026

- Developed a generative AI website builder and agent/workflow studio, enabling end-users to generate production-ready websites and automate workflows using natural language prompts.
- Engineered backend integrations with Node.js and JavaScript and streamlined platform architecture by eliminating performance bottlenecks, scaling platform capabilities into a more responsive full-stack ecosystem.

Business Analyst & Conversational AI Designer, CBOT (www.cbot.ai/) — October 2024 – January 2025

- Designed complex conversational flows and optimized backend NLP/AI workflows, driving measurable improvements in chatbot accuracy and user engagement.
- Gathered business requirements with cross-functional teams and implemented data-driven enhancements, using technical debugging to ensure reliable client delivery.

ADDITIONAL EXPERIENCE

- Intern, FLO Group** — Flo Gen Digital Internship Program, August – September 2026: rotational program of 18 cross-departmental sessions led by department heads (Retail Sales, E-Commerce, Digital Transformation, IT, AI, CRM, Marketing, Logistics, Finance).
- Intern, QNB Türkiye** — QNB 101 Online Internship Program, August – September 2026: core banking operations, branch/regional management sessions, regulatory compliance training, and career workshops.

EDUCATION

Bachelor of Science in Software Engineering, Istanbul Aydin University — Graduated 2026

- Degree issued with an official **Diploma Supplement (DS)** in the European Commission / Council of Europe / UNESCO-CEPES format, for international academic and professional recognition.
- Curriculum delivered under the Bologna Process and ECTS (European Credit Transfer and Accumulation System), enabling direct comparability with EU degree programmes.
- Graduation Project: Drone Fire Watch — autonomous wildfire detection with YOLOv8, FastAPI and React (see Key Projects).

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, SQL, Java, C/C++

Backend & APIs: FastAPI, Node.js, Express, REST API design, WebSockets, async programming, background job queues, microservices, multi-tenant architecture, JWT/OAuth authentication, rate limiting

AI & Machine Learning: LLMs, Agentic AI, RAG architectures, vector search & embeddings, LangGraph, LangChain, tool/function calling, prompt engineering, multi-agent orchestration, LLM evaluation, NLP (Transformers, BERT), Deep Learning (PyTorch), Computer Vision (YOLOv8)

Frontend: React, Next.js, Tailwind CSS, real-time dashboards

Data & Infrastructure: PostgreSQL, MongoDB, Supabase, Prisma, Docker, CI/CD (GitHub Actions), Git, Linux, integration testing

Platforms & Tools: ElevenLabs, Twilio, WhatsApp Business API, Gemini API, Cursor, GitHub Copilot, Jira, Agile/Scrum

LANGUAGES

Turkish: Native | **English:** Professional working proficiency (B2/C1) — technical documentation and business communication

KEY PROJECTS

FlowOne | AI Agent Orchestration Platform (useflowone.com)

- Co-founder and Lead Architect of an AI-native SaaS platform featuring Agent Studio, Workflow Studio, and Voice AI; modular multi-agent system with RAG pipelines, tool-calling workflows, and enterprise automation.
- Engineered a real-time WebSocket voice pipeline (STT → LLM → TTS) with ElevenLabs and Twilio, plus omnichannel integrations including WhatsApp Business API, Shared Inbox, and Web Chat.
- Built a scalable multi-tenant backend on FastAPI, PostgreSQL, Docker, and WebSockets with secure authentication, workspace management, and third-party API integrations.

PinMind | LangGraph-based Multi-Agent Orchestration Framework

- Built context-aware agent routing, planning, and task orchestration with LangGraph, including memory-aware execution for context-rich multi-step workflows.
- Designed an extensible architecture with reusable agent workflows, modular execution, shared memory, and pluggable agents and tools.

Drone Fire Watch | Aerial Fire & Smoke Detection System — *Graduation Project*

- Trained a custom YOLOv8-L detector for fire and smoke on the 21K-image D-Fire dataset (~100 epochs, 640px, precision/recall/mAP50 ≈ 0.80), deliberately trading latency for accuracy in a safety-critical domain.
- Served the model via a FastAPI inference service returning structured JSON to two clients: a React operations dashboard (confidence-threshold alarms, stats, alert history) and a Streamlit field reporter with EXIF-GPS mapping and OpenWeatherMap wind enrichment.

CareerMatch AI | AI-Powered Career Management Platform

- Built a Next.js + Prisma platform using Google Gemini AI for CV analysis and ATS-compatibility scoring, accepting PDF, Word, image, and text uploads with Tesseract.js OCR extraction.
- Implemented job-posting scraping with automated CV-to-vacancy comparison, an AI assistant for interview coaching and salary negotiation, notifications, and a bilingual TR/EN interface.

AI-Powered Dental Analysis Platform

- Developing a MERN-stack (MongoDB, Express, React 19, FastAPI) dental platform with three role-based dashboards (patient, clinic, corporate) covering oral-image analysis, health-trend charts, and regional analytics.
- Designed the Gemini API + LangChain integration roadmap, role-based access control, and Three.js 3D/AR treatment visualization, with GDPR/KVKK-compliant handling of medical images.

Football Social Exchange | AI Scouting & Fantasy Trading Mobile App — *Team project*

- Co-designing a mobile platform merging three pillars: a player-level social feed with sentiment analysis, an AI player comparison tool (stats, age, cost, fit score), and a fantasy stock market for trading virtual player and club shares.
- Built the pricing engine around real performance events and social signals, plus an Elo-based scout rating and a closed virtual-currency economy with non-cash rewards.

FlyRank Internship Projects — *Backend Track, 2026*

- **Embeddable Widget & Lead-Capture Platform** (capstone): multi-tenant Node.js/Express/TypeScript API with Prisma + PostgreSQL, Zod validation, and JWT auth; hardened the public submission endpoint with per-IP and per-widget rate limiting, honeypot spam filtering, CORS handling, and a 2-provider geo-enrichment fallback that degrades gracefully. 7 modular services, 13+ REST endpoints, React 19 dashboard, Docker Compose, and 22 integration tests (Vitest + Supertest) across 56 commits.
- **Asynchronous PDF Reporting Pipeline:** FastAPI service that accepts report requests with HTTP 202 and offloads generation to a background worker, using SQL aggregation (COUNT/SUM/AVG) for analytics, ReportLab for PDF artifacts, metadata-only artifact storage, a 4-state job lifecycle, and a scheduler for recurring reports.
- **Background Job Processing System:** FastAPI job queue with 202-Accepted semantics, a 4-state lifecycle, automatic retries (up to 3 attempts) with error preservation, and lock-based idempotency preventing duplicate execution by concurrent workers.
- **Task Management CRUD API:** layered FastAPI + PostgreSQL service with Supabase Auth, JWT-protected routes, and 13 documented endpoints (Swagger), containerized with Docker Compose and health-checked service startup.
- **Web Scraping & RAG Corpus Pipeline:** modular Python crawler (fetch → parse → extract → store) with robots.txt compliance, request throttling, and failure isolation, producing a normalized JSON corpus for downstream chunking, embedding, and retrieval.

Applied AI/ML Repositories

- **NLP Projects & Experiments:** text preprocessing, text representation (TF-IDF, Word2Vec, GloVe), probabilistic language models (N-gram, HMM), BERT/GPT question answering, machine translation, summarization, and recommendation systems.
- **Machine Learning Algorithms Collection:** supervised, unsupervised, and reinforcement learning implementations (Decision Trees, KNN, Logistic Regression, Random Forest, SVM, PCA) with scikit-learn, plus model selection, tuning, and evaluation.

PROFESSIONAL DEVELOPMENT & ENGAGEMENT

Google AI Professional Certificate — Google / Coursera, July 2026: 7-course program (AI fundamentals, research, content creation, data analysis, AI-assisted app building); 20+ AI artifacts and a custom AI solution built.

Google AI Essentials — Google / Coursera, July 2026: 5-course specialization on prompting, AI tooling, and responsible AI use.

Additional Training: AI Trainee — Samsung Innovation Campus, 2025 | Cloud & AI Bootcamp — Huawei, 2025 | AI Trainee — Ucanble Technology, 2025 | AI & Data Lead — Teknofest, 2025

Leadership & Community: Entrepreneurship Trainee — DenizBank Future Youth Bootcamp, 2024 | Core Team Member, GDG on Campus, 2024