

MALIK MOHSIN HAYAT

Senior Software Engineer | Applied AI & Backend Systems

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SUMMARY

Senior Software Engineer with **6+ years** of remote experience building production backend and applied AI systems across **airline, e-commerce, and healthcare platforms**. Built a live NL-to-SQL agent used by the CMO and marketing teams, and a multi-agent budget copilot reasoning over **~\$5M/month in ad spend**. Earlier scaled event-sourced (CQRS) backends to **100K+ clinical workflows/month** at Awell during its **growth to \$1M+ ARR**.

Core Skills

- **Languages:** Python, TypeScript/JavaScript, SQL
- **AI Engineering & LLMs:** LangGraph, LangChain, Multi-Agent Systems, NL-to-SQL, RAG, Agent Orchestration, Prompt Engineering, Model Routing, OpenAI API, Anthropic Claude, Vector Databases (Pinecone)
- **Backend:** Node.js (TypeScript), FastAPI, Express.js, GraphQL, REST, PostgreSQL, MongoDB, ArangoDB, ClickHouse, Redis
- **Frontend:** React, Redux, Next.js, Tailwind CSS, Framer Motion
- **DevOps:** CI/CD (GitHub Actions, GitLab CI/CD), Docker, Kubernetes, AWS, GCP, Vercel
- **Architecture:** Microservices, Event Sourcing (CQRS), Multi-Agent Pipelines, Scalable APIs

PROFESSIONAL EXPERIENCE

ONSERVICE.AI

Delaware, United States (Remote)

Senior Software Engineer

Jul 2026 – Present

- Building production conversational AI experiences for airline clients including World2Fly and LASER Airlines, across Python services, LLM agents, and airline booking workflows.
- Integrating conversational agents with KIU PSS and airline systems to support booking information, payments, check-in, flight changes, ancillary services, and passenger support.

TRAFILEA

United States (Remote)

AI Engineer

Jun 2025 – Jul 2026

- Built and shipped a conversational NL-to-SQL agent used by leadership, managers, and marketing teams to query campaign data across 30+ tables in plain English, reducing dependency on manual SQL and cross-schema table discovery.
- Engineered the SQL Agent safety layer with schema-aware retrieval, table allowlists, date-bound queries, structured outputs, and validation checks to reduce unsafe, invalid, or expensive query generation.
- Architected the Budget Allocation Copilot, a 3-level hierarchical multi-agent system in LangGraph reasoning over ~\$5M/month in ad spend across 2 brands, 5 countries, and 5 channels.
- Built the Copilot reasoning layer to diagnose campaign and creative health, generate trade-off scenarios per campaign, and explain budget recommendations in business language for non-technical decision-makers.
- Built an AI ingestion pipeline (AWS SNS → SQS → ClickHouse) processing multiple gigabytes of ad-performance data and engineered long-running (1hr+) LangGraph pipelines for recommendations.

AWELL HEALTH

Brussels, Belgium (Remote)

Senior Software Engineer

Apr 2021 – May 2025

- Owned architecture & development of core APIs (Orchestration, Task, Design), scaling to 100K+ monthly workflows and driving growth to \$1M+ ARR.
- Optimized CI/CD pipelines (Docker, Kubernetes), integrated TDD practices with 100+ e2e tests (Cypress), reducing deployment time by ~50% and significantly boosting product stability and release velocity.
- Designed and implemented event-driven architecture (CQRS) that later streamlined AI integration with RAG.
- Contributed actively to open-source ([hosted-pages](#), [ui-library](#), [awell-extensions](#)).

TINTASH

Lahore, Pakistan (Remote)

Software Engineer

Jul 2020 – Apr 2021

- Launched interactive puzzle platform attracting 5,000+ players in first month, enabling the client (The Escape Game) to achieve significant user growth.
- Built end-to-end full-stack booking platform (Node.js, React) supporting complex real-time scheduling, significantly improving UX and customer engagement.

EDUCATION

NATIONAL UNIVERSITY OF COMPUTER AND EMERGING SCIENCES, FAST-NUCES

Lahore, Pakistan

B.S. in Computer Science

2016 – 2020

- Bronze Medalist (3rd in cohort) and Dean's List honoree.

PROJECTS & ACHIEVEMENTS

- **SnippetGraph.com** – Governed, versioned knowledge-base authoring & publishing platform for AI-agent context. Snippets are authored once, composed into pages, and published as immutable, hash-verified release artifacts to Git via the GitHub GraphQL API (PR-style governance).
- **FirstCustomer.ai** – CI-native browser agent that maps pull request changes to affected user flows, tests real product paths with personas, and returns a confidence-scored release risk assessment.
- **Taskbarter (Side Project)** – Built a full-stack (React, Node.js, MongoDB) skill-barter platform from scratch, attracting 1.5K+ users and featured on [DEV Community](#).
- **First Place:** Programming Competition organised by ACM at FAST-NUCES in 2016.
- **ICPC Asia Regionals 2019:** 11th place out of 100+ teams

LINKEDIN RECOMMENDATIONS

- *"One of those hires you notice from day one."* – **Tomás Malgarín**, Data Analytics @ Trafilea
- *"Smart, capable, autonomous, and reliable engineer."* – **Etienne Bömccke**, Technical Lead @ Awell
- *"Thoughtful, diligent, methodical problem solver."* – **Jonathan Belanger**, Head of Engineering @ Awell
- *"Passionate developer, skilled technically, always raises the bar."* – **Vasilica Coscotin**, Tech Leader & YC Alum
- ... more verified recommendations on my [LinkedIn profile](#).