

Amil Uslu

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Summary

Principal Software Engineer with **15 years of experience** delivering **AI-driven, cloud-native**, and enterprise-scale software solutions. Proven track record in designing, deploying, and scaling **Artificial Intelligence, Machine Learning**, and **Large Language Model (LLM)** systems across finance, e-commerce, telecom, healthcare, and aviation domains. Hands-on expertise with LLM-based architectures (**RAG, LangChain, embeddings, vector databases**), **NLP** pipelines (classification, summarization, chatbots), and real-time **ML platforms** (fraud detection, recommendation systems). Skilled in bridging distributed microservices with modern cloud **AI platforms** including **AWS SageMaker, Azure OpenAI**, and **GCP Vertex AI** to drive **generative AI** transformation end-to-end.

Strong engineering foundation in backend development using **Java (Spring Boot), Python (FastAPI/Django), Go, and Node.js**, as well as frontend frameworks including **React, Angular (Material, NgRx), Vue.js, Ionic, and TypeScript**. Specialized in event-driven and message-streaming architectures (**Kafka**), security and secrets management (**Vault**), observability stacks (**Prometheus, Grafana, ELK, Splunk**), and database design with **PostgreSQL, Oracle, MySQL, and DynamoDB**.

Adept at architecting scalable, secure, containerized solutions using **AWS, GCP, and Azure**, leveraging **Docker, Kubernetes, OpenShift, and CI/CD automation (Jenkins, Terraform, Ansible)**. Recognized as a collaborative technical leader with experience mentoring teams, establishing engineering best practices, and aligning emerging technologies with strategic business outcomes and measurable ROI.

Award-winning contributor known for innovation, delivery excellence, and exceptional stakeholder communication.

Experience

Technical Lead

EXL Service • New York, NY

12/2024 – Present

- Designed and developed **core financial systems** (real-time payments, risk, compliance, and trading platforms) using **Java (Spring Boot), Go, and Python microservices**, delivering high throughput and fault tolerance. Built **event-driven pipelines with Kafka** to handle **real-time transactions, risk scoring, and fraud detection**, reducing latency and enabling scalable transaction monitoring.
- Designed and developed **scalable backend APIs** using **Node.js (Express, NestJS)** for high-traffic applications handling thousands of concurrent users.
- Designed and deployed **AI-powered document intelligence system** for financial reporting using **LangChain + GPT-based LLMs** for automated data extraction and compliance validation.
- Migrated core banking analytics workloads to AWS AI stack (SageMaker, Lambda, DynamoDB), enabling scalable model training, low-latency inference, and reduced infrastructure costs.
- Deployed cloud-native solutions on AWS leveraging Vault for secure secrets and compliance with PCI DSS, SOX, and GDPR.
- Migrated legacy financial apps to **Dockerized microservices**, orchestrated with **Kubernetes and OpenShift**, enabling **elastic scaling** during trading peaks and reducing downtime also their Java versions 17 to 21.
- Implemented **Kotlin, GraphQL and REST APIs** to integrate with partner banks, payment gateways, and financial data providers, cutting integration timelines and ensuring real-time data exchange.
- Delivered front-end trading dashboards and portals using **React, Angular (Material, NgRx), Ionic, TypeScript, Bootstrap, CSS, and HTML**, improving trader productivity and user experience.
- Partnered with data science teams to **fine-tune LLMs for financial text summarization and anomaly detection**, ensuring compliance with regulatory standards.

- Built **observability and monitoring pipelines** with **Prometheus, Grafana, ELK** to track **transaction flows, compliance events, and SLA metrics**.
- Designed and optimized **high-performance database solutions** to ensure **transactional integrity, reporting accuracy, and ACID compliance**.
- Automated **CI/CD pipelines** with **Jenkins, Terraform**, enabling **secure, zero-downtime deployments** for financial applications.
- Partnered with compliance, audit, and risk management teams to ensure systems adhered to **regulatory frameworks** (AML, OFAC, PCI DSS), while enhancing **security and resilience**.
- Experience leveraging DevAssist tools such as **GitHub Copilot** to optimize development workflows

Senior Full Stack Engineer

Hexacorp • Hackensack, NJ

04/2024 - 11/2024

- Headed the frontend development for Holy Name's multiple web applications, using **Angular 12, 14 and Angular 17** and **NgRx** in Health care Projects.
- Developed **HIPAA-compliant healthcare applications** using **Java (Spring Boot), Go, and Python (FastAPI & Django) microservices**, ensuring secure handling of **PHI (Protected Health Information)** and compliance with **HL7/FHIR standards**.
- Designed and developed **scalable backend APIs** using **Node.js (Express, NestJS)** for high-traffic applications handling thousands of concurrent users.
- Built **real-time claims, eligibility, and EHR data processing systems** with **Kafka-based event-driven architecture**, reducing claim turnaround times and improving reliability across distributed healthcare platforms. Designed **cloud-native healthcare services on AWS** implementing **Vault** for secrets management and secure access control.
- Implemented **serverless Node.js functions** on **AWS Lambda and API Gateway**, reducing operational overhead
- Migrated legacy healthcare systems into **containerized microservices** with **Docker, Kubernetes**, improving scalability, uptime, and disaster recovery capabilities and also Java versions 11 to 17.
- Implemented **Kotlin, GraphQL and REST APIs** to connect patient portals, provider systems, insurance networks, and government healthcare systems, reducing integration effort and improving data consistency.
- Built **modern front-end applications** for clinicians, patients, and administrators using **React, Angular (Material, NgRx), Ionic, TypeScript, Bootstrap, CSS, and HTML**, improving patient engagement and provider efficiency. Established **observability pipelines** with **Prometheus, Grafana, ELK** to monitor system health, compliance events, and SLA performance in real time.
- Designed **high-availability database solutions** (PostgreSQL, Oracle, MySQL, DynamoDB, RDS) for medical records, claims, and audit logs, with **encryption-at-rest** and **ACID compliance**.
- Automated infrastructure provisioning and deployments with **Jenkins, Terraform**, enabling secure **CI/CD pipelines** and **zero-downtime releases** for healthcare applications.
- Built a **HIPAA-compliant patient data chatbot** using **LangChain + Azure OpenAI GPT models**, enabling secure Q&A over **medical records, insurance claims, and treatment guidelines**.
- Designed and deployed **retrieval-augmented generation (RAG)** pipelines with **vector databases** to support semantic search across **clinical documents, discharge notes, and lab reports**.
- Implemented **AI-driven triage system** to assist nurses by extracting key symptoms and patient history from EHR data, reducing manual documentation time.
- Partnered with hospital's data science team to **fine-tune LLMs** for medical text summarization and **ICD-10 code classification**, improving accuracy of coding/billing workflows.
- Migrated clinical decision support workloads to **AWS SageMaker**, ensuring scalable model training and real-time inference within strict compliance requirements.
- Conducted **AI/ML workshops** for hospital IT staff, focusing on **responsible AI, prompt engineering for medical queries, and explainable ML in clinical decision making**.

- Experience leveraging DevAssist tools such as **GitHub Copilot** to optimize development workflows

Senior Software Engineer

Upwork • Remote

07/2022 - 04/2024

- Designed and developed **core freelancing marketplace features** — project postings, bidding, escrow, and secure payments — using **Java (Spring Boot), Go, and Python(FastAPI/Django)**, **microservices** deployed in a **microservices architecture**.
- Built **real-time event-driven pipelines with Kafka** for messaging, notifications, and transaction updates, ensuring low-latency interactions between freelancers and clients.
- Architected **event-driven systems** using **Node.js with Kafka, Redis Streams, and WebSocket** for live dashboards, notification engines, and telemetry data processing.
- Deployed platform services across **AWS** leveraging **Vault** for secure secrets management and enforcing compliance with **PCI DSS and GDPR**.
- Migrated legacy modules into **Dockerized microservices**, orchestrated via **Kubernetes and Helm**, enabling **elastic scaling** to handle millions of global users simultaneously.
- Partnered with product teams to integrate **GenAI assistants** for freelancers and clients improving platform usability.
- Developed **AI-powered talent matching system** using **ML ranking models + embeddings**, improving freelancer–client match accuracy and project success rates.
- Designed **semantic search pipelines** with **vector databases** and **LLM-driven query expansion**, enabling natural-language job searches and increasing user engagement.
- Built **recommendation engines** for personalized freelancer/job suggestions using **Spark ML + Python**, boosting click-through and contract conversion rates.
- Implemented **real-time content moderation pipeline** (Kafka + NLP classifiers + GPT-based summarization) to detect policy violations across job postings and freelancer profiles.
- Developed **front-end dashboards and portals** using **React, Angular (Material, NgRx), Ionic, TypeScript, Bootstrap, CSS, and HTML**, providing freelancers and clients with real-time project tracking and payment insights.
- Implemented **Kotlin, GraphQL and REST APIs** for partner integrations (identity verification, KYC, fraud detection), reducing integration timelines and improving platform trust.
- Established **observability and monitoring pipelines** using **Prometheus, Grafana, ELK stack** improving incident detection and reducing MTTR.
- Built secure and scalable **database solutions** (PostgreSQL, MySQL, DynamoDB, RDS) with encryption and optimized indexing to support **transactional consistency and reporting**.
- Automated **CI/CD pipelines** with **Jenkins, Terraform, and Kubernetes**, enabling frequent feature deployments with **zero downtime**.
- Collaborated with cross-functional teams (fraud prevention, payments, compliance) to deliver features that improved platform security and reduced fraudulent activity.
- Experience leveraging DevAssist tools such as **GitHub Copilot** to optimize development workflows

Principal Software Engineer

sahibinden.com • Istanbul, Turkey

09/2021 - 04/2022

- Led the **architecture and technical direction** of a large-scale **e-commerce ecosystem** including **order management, catalog, payment, and personalization services**, serving millions of global customers.

- Created **high-performance product, order, and user services** using **Node.js + PostgreSQL**, supporting dynamic catalog updates, cart operations, and promotional workflows with **GraphQL APIs**.
- Designed and developed **high-throughput microservices** with **Java (Spring Boot, Kotlin), Go, and Python**, integrated via **Kafka** for **real-time inventory, pricing, and transaction event streaming**.
- Built **cloud-native services** on **AWS (EC2, RDS, DynamoDB, S3, Lambda, CloudWatch)** and **GCP**, leveraging **Vault** for secrets and compliance, ensuring **PCI DSS, GDPR, and SOX** adherence.
- Directed migration from **monolithic commerce systems** into **containerized microservices** using **Docker, Kubernetes, and OpenShift**, enabling **elastic scaling** for seasonal peaks like Black Friday and cutting infra cost by 30%.
- Delivered **modern web and mobile experiences** using **React (Redux), Angular (Material, NgRx), Ionic, TypeScript, Bootstrap, CSS, and HTML**, reducing cart abandonment and improving conversion rates.
- Exposed product, cart, and checkout features via **GraphQL and REST APIs**, enabling seamless integration with partner marketplaces, mobile apps, and analytics pipelines.
- Established **real-time observability pipelines** with **Prometheus, Grafana, ELK stack (Elasticsearch, Logstash, Kibana)**, reducing MTTR and ensuring **99.99% uptime**.
- Designed and optimized **database solutions** (PostgreSQL, Oracle, DynamoDB, RDS) for **transaction processing, reporting, and customer insights**, ensuring data integrity and ACID compliance.
- Spearheaded **CI/CD automation** using **Jenkins, Terraform, and Kubernetes**, enabling **daily production releases with zero downtime**.
- Mentored teams of 4+ engineers, conducted **architecture reviews, sprint planning, and cross-functional workshops**, ensuring alignment with **business KPIs, revenue growth, and customer experience goals**.
- Built and optimized personalized recommendation engines (collaborative filtering + Spark ML) to improve product/ad discovery, increasing user engagement and conversion.
- Designed **semantic search services** with **NLP models and Elasticsearch**, enabling users to find listings via natural language queries and boosting search relevance.
- Integrated **AI chatbots** for buyer-seller support, automating FAQ handling and transaction guidance to reduce manual support workload.
- Implemented **fraud detection models** for suspicious listings and fake accounts using **streaming pipelines (Kafka + ML classifiers)**, reducing platform abuse.

Principal Software Engineer

Turkcell • Istanbul, Turkey

03/2018 - 08/2021

- Led a team of **8 engineers** in delivering **digital services platforms** (messaging, payments, subscription, campaign management) for millions of customers, ensuring **scalability, high availability, and regulatory compliance**. Designed and developed **microservices** with **Java (Spring Boot, Kotlin), Go, and Python**, integrated via **Kafka** for **realtime, event-driven processing** of telecom traffic and billing workflows.
- Built and deployed **cloud-native services** on **AWS (EC2, RDS, DynamoDB, S3, Lambda, CloudWatch)** and **GCP**, leveraging **Vault** for secrets management and compliance with internal security policies.
- Migrated legacy monolithic systems into **containerized microservices** using **Docker, Kubernetes, and OpenShift**, improving scalability and reducing deployment time.
- Adopted **TypeScript** for type-safe and modular **Node.js** development, improving maintainability and team scalability.
- Developed **real-time customer churn prediction models** using **Spark ML + Python**, enabling proactive retention campaigns and reducing churn.

- Built **usage-based recommendation systems** (personalized data plans, mobile content offers) using **collaborative filtering and behavioral analytics**, increasing upsell/cross-sell revenue.
- Designed **event-driven streaming pipelines** (Kafka + ML integration) to process telecom network data, detecting anomalies in call quality and mobile traffic patterns.
- Integrated **AI-driven fraud detection** for SIM card misuse, subscription abuse, and call spoofing, reducing fraudulent activities across the network.
- Modernized customer care systems with **NLP chatbots** for support automation (billing, packages, technical issues), reducing average handling time.
- Designed and implemented **GraphQL and REST APIs** for internal and external partner integrations, reducing API response times and improving partner onboarding efficiency.
- Built **customer-facing and internal applications** using **React (Redux), Angular (Material, NgRx), Ionic, TypeScript, Bootstrap, CSS, and HTML**, delivering intuitive dashboards and self-service portals.
- Established **end-to-end observability pipelines** using **Prometheus, Grafana, ELK (Elasticsearch, Logstash, Kibana)**, enabling proactive monitoring and reducing mean-time-to-resolution (MTTR) by 30%.
- Automated deployments and infrastructure provisioning via **Jenkins, Terraform**, enabling **weekly Agile releases with zero downtime**.
- Directed **Agile ceremonies** (sprint planning, backlog grooming, retrospectives), mentored junior developers, and conducted **architecture reviews** to align delivery with business goals.
- Collaborated with product owners and business stakeholders to define **real-time ML models on distributed systems, roadmaps, KPIs, and SLAs**, ensuring alignment with Turkcell's **digital transformation and customer experience strategies**.

Senior Software Engineer

Turkish Airlines • Istanbul, Turkey

08/2016 - 02/2018

- Designed and implemented **aviation IT platforms** for **flight scheduling, crew management, and passenger services** using **Java (Spring Boot, Kotlin), Go, and Python microservices**, ensuring compliance with international aviation standards.
- Built **event-driven communication systems** with **Kafka**, enabling real-time data exchange between **airline reservation, flight tracking, and ground operation systems** with low latency and high reliability.
- Deployed **cloud-native services on AWS (EC2, RDS, DynamoDB, S3, Lambda, CloudWatch)** and **GCP**, ensuring **disaster recovery, high availability, and compliance** for mission-critical aviation operations.
- Created **flight operations and crew scheduling microservices** using **Node.js + Kafka**, enabling real-time synchronization between ground systems, booking platforms, and internal dashboards; integrated monitoring via Prometheus and Grafana.
- Containerized applications with **Docker** and deployed on **Kubernetes and OpenShift clusters**, enabling **elastic scaling** during seasonal peaks in air travel demand.
- Developed **GraphQL and REST APIs** to integrate with third-party systems (travel agencies, loyalty programs, regulatory authorities), reducing partner onboarding and integration times.
- Built **modern user interfaces** with **React (Redux), Angular (Material, NgRx), Ionic, TypeScript, Bootstrap, CSS, and HTML**, powering **real-time flight dashboards, customer portals, and operational control systems**. Established **monitoring and observability pipelines** using **Prometheus, Grafana, ELK (Elasticsearch, Logstash, Kibana)** to track application performance, improve incident response, and ensure SLA compliance.
- Implemented **Vault-based secrets management** to secure sensitive passenger and operational data, supporting **GDPR and aviation cybersecurity requirements**.
- Automated **infrastructure provisioning and deployments** with **Jenkins, Terraform, Kubernetes**, achieving **zerodowntime rollouts** and accelerating release cycles.

- Collaborated with cross-functional aviation stakeholders to ensure systems met **regulatory, security, and operational performance goals** while improving passenger experience

Senior Software Engineer

NETAS • Istanbul, Turkey

02/2016 - 07/2016

- Client Name: **Yapı Kredi Bank**
- Designed and implemented **core banking microservices** using **Java (Spring Boot, Kotlin), Go, and Python**, supporting mission-critical workflows such as **payments, loan origination, compliance checks, and transaction reconciliation**.
- Built **event-driven systems with RabbitMQ** to process high-volume financial transactions, enabling **real-time fraud detection, settlement, and ledger updates** across distributed banking platforms.
- Integrated **secure APIs with GraphQL and REST** for customer onboarding, credit scoring, and third-party fintech integrations, reducing integration time.
- Created **frontend applications with Angular, Material design, Bootstrap and TypeScript**, delivering intuitive banking portals for customers, branch staff, and compliance officers.
- Designed and optimized **database solutions** (PostgreSQL, Oracle, MSSQL) for **transaction processing, regulatory reporting, and audit trail management**, ensuring high availability and ACID compliance.
- Containerized applications with **Docker** and deployed them to **Kubernetes clusters**, achieving elastic scaling and secure workload isolation for banking workloads.
- Deployed **monitoring and observability pipelines** with **Splunk** to ensure SLA compliance and reduce downtime. Implemented **regulatory compliance features** (PCI DSS, AML, OFAC, GDPR) with encryption-at-rest, tokenization, and audit logging across all systems.
- Managed **Linux and Windows server environments** supporting hybrid on-prem + cloud banking workloads, ensuring compliance with internal IT governance and regulatory audits.
- Championed **DevSecOps pipelines** with **Jenkins, Terraform, and Kubernetes**, delivering **zero-downtime deployments** and accelerating release frequency.

Software Engineer

Teleperformance • Istanbul, Turkey

11/2013 - 01/2016

- Designed and implemented **call center and customer engagement platforms** integrating **Avaya, Genesys Centrals, and Microsoft Dynamics CRM**, enabling **omnichannel support (voice, chat, email, social)** for enterprise-scale operations.
- Developed **Java (Spring Boot), Go, and Python microservices** with **RabbitMQ-based event-driven architecture**, powering **real-time call routing, IVR workflows, and customer interaction tracking** across thousands of agents. Deployed **cloud-native solutions**, achieving **high availability, auto-scaling, and disaster recovery** for missioncritical call center systems.
- Built **agent and supervisor dashboards** with **React (Redux), Angular (NgRx, Material Design),, Vue3, Ionic, TypeScript, JavaScript, and Bootstrap**, providing real-time call queues, customer profiles, and performance insights.
- Engineered **GraphQL, Kafka and REST APIs** to unify data between CRM, billing, and ticketing platforms, reducing integration complexity and improving customer service workflows.
- Designed **data and reporting pipelines** with **QlikView, ELK (Elasticsearch, Logstash, Kibana), and Splunk**, enabling advanced **call volume analytics, SLA adherence reporting, and agent performance metrics**.
- Implemented **observability pipelines** with **Prometheus & Grafana**, proactively monitoring call volumes, system loads, and SLA breaches, reducing MTTR by 35%.
- Containerized call center services with **Docker** and deployed on **Kubernetes clusters**, ensuring **elastic scaling** during seasonal peaks and unplanned surges in call traffic.

- Administered and optimized **Linux and Windows Server environments**, ensuring interoperability with Avaya, Genesys, and CRM systems.
- Automated deployments with **CI/CD pipelines (Jenkins, Kubernetes, Terraform)**, achieving **weekly production releases with minimal downtime**.
- Collaborated with business stakeholders to design **real-time and historical reporting dashboards**, helping management track **customer satisfaction (CSAT), average handling time (AHT), and first call resolution (FCR)**. Mentored junior engineers, conducted code reviews, and led **architecture workshops**, ensuring adherence to best practices in security, scalability, and performance.

Software Engineer Intern

MSS Solutions • Istanbul, Turkey

05/2013 - 09/2013

- Developed and maintained **web applications** using **C#, .NET, CSS, HTML, and Ajax**, enhancing responsiveness and cross-browser compatibility.
- Implemented **image processing features** in **C#/.NET**, supporting automated resizing, watermarking, and format conversion for digital content workflows.
- Assisted in the customization and maintenance of **Drupal-based content management systems (CMS)**, improving usability and reducing page load times.
- Contributed to **UI/UX improvements** by building reusable CSS stylesheets and HTML templates, streamlining front-end consistency across applications.
- Participated in debugging, testing, and code reviews to ensure **quality, maintainability, and adherence to best practices**.
- Collaborated with senior developers to deliver enhancements for client-facing portals, gaining exposure to **end-to-end software development lifecycle (SDLC)** in an agile environment.

Education

Computer Science and Engineering

Yeditepe University • Istanbul, Turkey

09/2008 - 02/2014

Skills

Frontend Development:

- **HTML5, SCSS, CSS3:** Responsive design, cross-browser compatibility
- **JavaScript:** ES6+, DOM manipulation, asynchronous programming
- **Frameworks/Libraries:** React.js, Angular, Vue.js, jQuery, Nuxt.js, Ionic, AngularJS, Typescript, Bootstrap, Redux, RxJS, Vuetify, Angular Material, NgRx
- **UI/UX Design:** Wire framing, prototyping, user-centered design principles, HighCharts for reports

Backend Development:

- **Languages:** Java, C#, Go, Python, Node.js
- **Frameworks:** Spring Boot, .NET Core, Express.js, Django, Entity Framework, MVC
- **API Development:** RESTful services, GraphQL
- **Database Management:** SQL (MySQL, PostgreSQL, MSSQL), NoSQL (MongoDB, Couchbase) **Data Storage & Caching:** Redis, Memcached

DevOps & CI/CD:

- **CI/CD Tools:** Jenkins, GitLab CI, Travis CI
- **Containerization & Orchestration:** Docker, Kubernetes, OpenShift
- **Cloud Platforms:** AWS (Lambda, S3, SQS, SNS, Glue, RDS, EC2), Azure, Google Cloud Platform
- **Infrastructure as Code:** Terraform, Ansible

Testing & Quality Assurance:

- **Automated Testing:** Selenium, JUnit, NUnit, TestNG, Cypress, Playwright, Appium
- **Performance Testing:** JMeter, Gatling, K6
- **Code Quality & Static Analysis:** SonarQube, ESLint, Pylint

Monitoring & Observability:

- **Monitoring Tools:** Datadog, Prometheus, Grafana, Elastic Stack, Apache Pinot
- **Logging:** Logstash, Fluentd, Splunk

Security & Compliance:

- **Security Practices:** OWASP, encryption, tokenization, Vault
- **Compliance Standards:** PCI-DSS, GDPR

Version Control:

- **Git:** Branching, merging, pull requests
- **Version Control Systems:** Github, Bitbucket, Svn

Message Brokers:

- Kafka
- RabbitMQ

Big Data Technologies:

- Spark,
- Hadoop

AI & IoT Technologies:

- AI/ML model integration
- IoT device management

Certificates

- 07/2007 - System & Network Specialist by Bilge Adam
- 08/2019 - Finance for Professionals by Rice University
- 12/2019 - Finance Master by Bogazici University
- 04/2021 – Professional Scrum Master by Scrum.org
- 05/2021 – React Nanodegree Program by Udacity

Awards & Patents

- In 2018, TestHackathon Winner organized by Keytorc
- In 2019, TAPOST 2nd place organized by Accenture Latvia
- In 2021, Mobile Testhackathon 2nd place organized by Mobven
- In 2018, Intelligent Furniture that Allows recommendations by analyzing usage Information Patent by Turkish Patent Community
- In 2020, Automatic test creator Patent by Turkish Patent Community

Publications

- [New Comings with Selenium 4 on Medium, 11/11/2019](#)
- [Page Object Model in Automation via Selenium on Medium, 11/23/2020](#)