

AMEES ANSARI

Senior Engineer | AI Systems & Automation

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PROFESSIONAL SUMMARY

Senior Engineer with 7+ years building AI-powered platforms, automation services and data-driven systems for UAE government and enterprise clients. Delivered an event-driven Arabic speech evaluation service (OpenAI Whisper, Apache Kafka, FastAPI) on Azure AKS, LLM and RAG integrations, and NOC incident-automation platforms that create, assign and resolve ServiceNow tickets from monitoring and IoT events (PRTG, ThingWorx). Hands-on across Python, TypeScript and SQL, event-driven architecture, IoT telemetry (MQTT, smart metering across 1M+ meters) and data engineering (Kafka, Airflow, Spark). Leads delivery end-to-end, from requirements and solution design through deployment, CI/CD and handover, and translates system outputs into clear, decision-ready insights for technical and non-technical stakeholders.

SKILLS

- **AI / ML & LLMs:** LLM integration, RAG pipelines, LangChain, OpenAI Whisper / faster-whisper (ASR), Arabic NLP and text normalization, fuzzy matching (RapidFuzz), WER/jiwer, librosa, ffmpeg
- **Backend & Integration:** Python, FastAPI, Django / Django REST Framework, SQLAlchemy, Celery, Redis, REST, GraphQL, SOAP web services, APScheduler, OpenAPI
- **Event-Driven & Data Engineering:** Apache Kafka, Apache Airflow, Apache Spark, Hadoop (HDFS), ETL, data modelling, data quality validation, pandas / NumPy
- **Security:** JWT and OTP authentication, OAuth2 / OIDC, role-based access control, field-level encryption (Fernet), HMAC blind indexes, PII protection, rate limiting
- **Databases:** PostgreSQL, MySQL, MongoDB, SQL
- **IoT & Operations Platforms:** MQTT / EMQX, ThingWorx, Cisco Jasper, AMI (HES / MDM), ServiceNow, PRTG Network Monitor
- **Cloud & DevOps:** Azure (AKS, Blob Storage), Docker, nginx, GitHub Actions (self-hosted runners), CI/CD, Linux (RHEL / CentOS), Grafana, Prometheus, cron automation
- **Programming:** Python, TypeScript, JavaScript, SQL, C++, Java, Shell scripting
- **Frontend & Visualization:** React, Next.js, Vue 3, Tailwind CSS, shadcn/ui, Redux Toolkit, Zustand, React Query, Recharts, Chart.js, D3.js, Leaflet.js, Mapbox GL JS
- **Delivery:** Requirements gathering, solution design, technical documentation, handover, stakeholder communication, code reviews and mentoring

PROFESSIONAL EXPERIENCE

Senior Engineer, AI Systems

Oct 2021 - Present

e& (EAND Enterprise) | Dubai, UAE

- Build AI-powered platforms end-to-end, from requirements and solution design through testing, deployment and continuous improvement, including an AI-assisted Arabic sermon evaluation system (AWQAF Ministry, Smart Khatib) and UAE civil-defense / smart-home IoT platforms (Hassantuk).
- Design and build NOC incident-automation services that turn monitoring and IoT events (PRTG, ThingWorx) into ServiceNow incidents, assignments, work notes and resolutions, plus a Ministry of Interior operations portal for NOC and support teams.
- Deliver smart-metering integrations for TAQA: Kafka-based meter onboarding into the GridPulse / UtilitySync fulfillment tool, commissioning through the HES API, and analytics over 1M+ meters.
- Develop business intelligence dashboards, KPI layers and automated reports over real-time operational telemetry (WebSocket, MQTT, SSE) and case data to support monitoring and decision-making.
- Work directly with IT, business and government stakeholders on data access, data definitions and data quality, and write technical documentation and delivery reports for senior stakeholders.
- Identify and automate manual workflows and recurring technical processes through REST and SOAP integrations, scheduled jobs and event-driven services.
- Design frontend-backend data contracts over REST and GraphQL, collaborating on microservice boundaries, auth flows (OAuth2 / OIDC, JWT) and error-handling strategy.
- Operate CI/CD pipelines and automated quality gates on Azure and GitHub Actions; lead code reviews and mentor engineers on architecture and best practices.

Frontend Engineer

May 2021 - Oct 2021

DIFX Technology | UAE

- Built real-time cryptocurrency trading interfaces with Vue.js, translating complex financial UI into high-performance, responsive experiences.
- Implemented charting and real-time data visualisation (TradingView Lightweight Charts, multi-timeframe indicators) and live order-book depth visualisation.
- Developed order-management and portfolio-tracking interfaces, plus a responsive React-based NFT marketplace and marketing pages.

- Converted Figma / Adobe XD designs into responsive, production-ready web applications.
- Built documented, reusable component libraries for cross-project reuse.
- Implemented WCAG 2.1 accessibility standards (ARIA, keyboard navigation) for inclusive experiences.

PROJECTS

Smart Khatib – AI Sermon Evaluation Service

AWQAF Ministry, UAE | Event-driven ASR and scoring microservice on Azure AKS

- Built an event-driven microservice (Kafka) that automatically transcribes and scores Arabic Friday sermons, replacing manual review for a government religious authority.
- Integrated OpenAI Whisper (faster-whisper) for Arabic speech-to-text with word-level timestamps, tuned for long recordings with background noise; built an ffmpeg pre-processing pipeline (16 kHz mono, volume-normalized) that rejects short or silent uploads early.
- Developed a multi-stage audio trimmer that detects the sermon's real start and end inside unedited recordings using phrase detection and text matching against the reference script.
- Implemented 5 pluggable scoring modules on a shared interface: script accuracy (word error rate), pronunciation (dictionary and fuzzy matching), delivery engagement (pitch and pace with librosa), vocal-style adherence and duration compliance.
- Built a weighted 100-point scoring model with feedback in Arabic, English and Urdu plus a word-by-word comparison; made it production-ready with configurable thresholds, per-module error handling, retries, database persistence, Azure Blob storage and Docker.
- Delivered the platform frontend: a Next.js / TypeScript analytics dashboard, a TipTap editor with Arabic RTL support and a custom Azure Media video player with timestamped annotation.

Tech: Python, OpenAI Whisper, faster-whisper, librosa, NumPy, Apache Kafka, FastAPI, SQLAlchemy, Azure Blob Storage, Docker, ffmpeg, Next.js, TypeScript, TipTap, Recharts

M2M Mobility – SIM & Device Management Platform

Cisco Jasper integration, hardcap automation, high-availability re-architecture, monitoring and AI usage prediction

- Work on a SIM and device management platform built on Cisco Jasper, covering SIM lifecycle, rate plans, device provisioning, quota management and deactivation workflows for M2M / IoT connectivity.
- Automated integration with the Cisco Jasper event-handler API, processing recurring account, usage and SIM-identity data exports that drive hardcap (data-limit) enforcement and account-level reporting.
- Manage and scale the Docker-based microservices (admin portal, notification and event-handler services) backed by MySQL / PostgreSQL, and built automated email and SMS notifications for plan changes, quota thresholds and deactivations.
- Leading the event-handler re-architecture to a high-availability design (2 application and 2 database VMs plus a central monitoring server) on the Jasper Control Center REST API, with the migration ready for staging.
- Built Grafana monitoring (Prometheus, Node Exporter, cAdvisor) for VM, container and storage health; diagnosed disk-capacity issues caused by ~10 GB/day of usage exports and coordinated retention and volume fixes.
- Designing AI capabilities on the platform's usage history: an early-warning model that forecasts which accounts will exceed their data allowance before the billing cycle ends, heavy-device detection for selective capping instead of whole-account deactivation, and repeat-disconnection prediction.
- Designing a read-only AI operations assistant (LLM) that explains capping decisions from stored request history and generates daily summaries for operators.

Tech: Cisco Jasper (Control Center REST API), Python, Docker, MySQL, PostgreSQL, Grafana, Prometheus, Linux (RHEL / CentOS), LVM, Java, Shell scripting, forecasting / LLM (in design)

TAQA – AMI Meter Onboarding & Smart-Metering Analytics

TAQA (ADDC & AADC), UAE | Kafka onboarding, HES commissioning and Grafana analytics over MongoDB / Spark / Hadoop

- Built the e& side of the AMI meter-onboarding flow: a Kafka listener that consumes validated meters published by TAQA's MDM and loads them into the GridPulse / UtilitySync fulfillment tool.
- Integrated meter commissioning through the Head-End System (HES) API, so commissioning commands start in GridPulse / UtilitySync and are executed by HES.
- Worked with vendor gateway data (Datakorum, EasySoft) flowing over MQTT into HES Kafka and MongoDB, covering load profiles, registers, events and alarms.
- Built the data-engineering layer: Airflow-scheduled Spark jobs that process readings into Hadoop (HDFS) for history and reports.
- Built Grafana dashboards tracking reading coverage, gateway health and inventory across 1M+ meters and 70+ gateway brand / model combinations, with drill-down filters.

Tech: Apache Kafka, MQTT, HES / MDM, MongoDB, PostgreSQL, Apache Airflow, Apache Spark, Hadoop (HDFS), Grafana, Python

IoT Robotics Integration – ServiceNow & PRTG Ticketing Automation

e& IoT & AI NOC | FastAPI integration platform for PRTG and ThingWorx (Smart District Platform) events

- Built a FastAPI integration platform that automates the full ServiceNow incident lifecycle (create, assign, add work notes, resolve) for two independent event sources: PRTG Network Monitor webhooks and scheduled ThingWorx Smart District Platform polling.

- Wrote a reusable, configuration-driven ServiceNow SOAP client library shared by both modules, so the same code runs in pre-production and production through environment settings only.
- Designed a PRTG state machine that groups sensor alarms per account and alarm type into a single incident, tracks each down device with work notes, auto-resolves when the last device recovers and acknowledges the sensor back in PRTG.
- Built scheduled jobs that detect disconnected IoT assets (air quality, flood, parking, waste-bin and weather sensors, building gateways and ANPR vehicle counting) and raise or auto-resolve tickets using per-asset offline thresholds.
- Added de-duplication and cooldown-based retry logic (one open ticket per device and data point) with failure isolation, so secondary steps never break the main ticket flow.
- Persisted state in PostgreSQL with separate schemas per module, exposed admin endpoints for job status, manual runs and ticket review, and covered the logic with pytest using a fake ServiceNow client.

Tech: Python, FastAPI, SOAP / XML, ServiceNow, PRTG, ThingWorx, APScheduler, PostgreSQL, SQLAlchemy, pytest

MOI Self-Healing Portal – ServiceNow Incident Automation

Ministry of Interior, UAE | Django operations portal for NOC L1 / L2, SRC and Customer Service teams

- Built a Django portal that combines ServiceNow fault incidents with account master data and live device status from UTC, HOL, M2M and ThingWorx, so operators can see which affected devices are already back online.
- Automated ServiceNow actions in bulk: close, reassign and place on hold incidents and work orders, create work orders from CSV and incidents from CSV / Excel uploads, with an admin activity log.
- Built scheduled sync jobs (cron with flock inside Docker) that pull open fault incidents every 2 minutes, match them to accounts and refresh connection status, feeding an auto-refreshing incident view.
- Implemented secure access with captcha and email OTP login (Microsoft Graph), forced first-login password change, password complexity rules and role-based module access across 7 user roles.
- Designed a three-database PostgreSQL setup with custom Django database routers, including tables shared with an external reporting system.
- Deployed through GitHub Actions with a self-hosted runner: pull-request checks, automated deploy with code backup, Docker rebuild, health check and automatic rollback on failure.

Tech: Python, Django, PostgreSQL, Docker, Gunicorn, GitHub Actions, ServiceNow SOAP, Microsoft Graph, cron

MOCD Case Management Platform – Hassantuk

Ministry of Community Development (MOCD), UAE | Django REST API and Next.js staff portal

- Own the platform end-to-end: a Django 5 / Django REST Framework API and a bilingual (English / Arabic, RTL) Next.js 16 portal for beneficiary clients, support cases, properties and documents, with role-based access for 4 staff roles.
- Secured it with OTP login, JWTs in httpOnly cookies with rotating refresh tokens, rate limiting, field-level PII encryption (Fernet) with HMAC search indexes, and encrypted document storage.
- Built audited case and document workflows, CSV / Excel bulk uploads and Celery / Redis background jobs, deployed as Docker services through GitHub Actions with health-checked releases.

Tech: Python, Django 5, Django REST Framework, PostgreSQL, Celery, Redis, nginx, Docker, GitHub Actions, Next.js 16, React 19, TypeScript, Tailwind CSS

Hassantuk – UAE Civil Defense & Smart Home IoT Program

Ministry of Community Development (MOCD), UAE | ThingWorx, Apache Airflow, JSF / PrimeFaces

- Built the Alarming System, ThingWorx Mashup dashboards monitoring connected fire-alarm devices across residential and commercial properties nationwide.
- Built Apache Airflow pipelines and Python cron automation jobs for Hassantuk smart-metering data flows.
- Built the Installation and Replacement Wizards, JSF / PrimeFaces field-operations tools for the Future Home and IoT Sync modules.

Tech: ThingWorx, ThingWorx Mashups, Apache Airflow, Python, JSF / PrimeFaces

Head-End System – IoT Gas Meter Platform (Lead Frontend Developer)

Enterprise IoT | Full frontend ownership

- Owned the full frontend: a real-time WebSocket dashboard for live meter status, Leaflet.js geospatial views with marker clustering and anomaly analytics, and an offline-first PWA for field technicians (QR scanning, GPS capture, photo annotation).

Tech: TypeScript, Leaflet.js, Chart.js, WebSocket, PWA

Blockchain Credential Verification System

Ministry of Education (MOE), UAE

- Built the frontend for a blockchain-based academic certificate verification system, validating document integrity through hash comparison to detect PDF tampering.

Tech: Vue 3, Blockchain, Document Hashing / Integrity Verification

EDUCATION

B.Tech in Electrical & Electronics Engineering, Kerala University, India

2014 - 2018

LANGUAGES

English (Fluent) | Arabic (Intermediate) | Hindi (Intermediate) | Malayalam (Native)