

SHAHBAZ ATTA AWAN

Senior AI & Data Architect

GIS & AI Data Architect · Hajj & Crowd Management · Smart City · Big Data

shahbaz.atta@gmail.com · +92 335 0414031 · linkedin.com/in/shahbazatta

PROFESSIONAL SUMMARY

20+ years designing and delivering large-scale mapping, routing, IoT and real-time spatial analytics platforms, now extending that discipline into AI-driven data products. Three years on-site in Makkah, Saudi Arabia, leading the architecture of Geo-Where, Masar IoT and Traffixity — production geospatial systems for Hajj traffic and crowd-density management. Strong alignment with Saudi Vision 2030 initiatives including NEOM, Riyadh Metro, Aramco digitisation and Ministry of Hajj modernisation.

KEY HIGHLIGHTS

- 3 IEEE / IIT Publications
- 10+ Yrs On-Site KSA
- 3 Hajj Platforms Shipped
- Millions of Events / Day
- AVP-Level Leadership
- Vision 2030 Aligned

CORE TECHNICAL COMPETENCIES

Geospatial / GIS	PostGIS, pgRouting, GeoServer, MapBox, Graphhopper, OpenLayers, OSM, Map Tiling, Routing Engines
Big Data & Streaming	Apache Spark, Spark Streaming, Flink, Kafka, NiFi, Druid, Superset, Elasticsearch, Hadoop, MongoDB, Redis, RabbitMQ
Cloud & AI/ML	Databricks, Delta Lake, Snowflake, GCP, Predictive Modelling, Applied ML Pipelines
Languages & Frameworks	Java, Python, Scala, C++, Spring, Angular, Android SDK/NDK
DevOps & Leadership	Docker, Kubernetes, Git, Agile/Scrum, PMP, AVP-level Leadership

PROFESSIONAL EXPERIENCE

GIS Data Architect <i>First City AI · Remote</i> – Own end-to-end big-data and GIS architecture, technology selection and delivery for mapping, routing and location-intelligence products. – Implemented Graphhopper + MapBox + GeoServer for the public-facing layer and an Apache NiFi + Spark + MongoDB pipeline for the geospatial data lake. <i>Java · Python · Angular · Spark · MongoDB · NiFi · Graphhopper · MapBox · GeoServer</i>	Mar 2023 – Present
Assistant Vice President — Data Analytics <i>Systems Limited</i> – Led big-data architecture and technology selection across the enterprise analytics practice. – Architected a predictive insurance-claim platform on Databricks + Delta Lake + Snowflake, including feature pipelines and Spark Streaming ingestion. <i>Java · Python · Scala · Spark Streaming · Databricks · Delta Lake · Snowflake · Redis</i>	Aug 2022 – Mar 2023
Big Data Architect <i>Mi-C3 International · Remote / EU</i> – Architected and shipped Mi-Stream, a multi-tenant real-time geospatial streaming platform handling millions of events a day. – Designed the PostGIS + pgRouting + GeoServer subsystem with REST tile-serving and routing APIs, cutting ingest latency significantly. <i>Java · Spring · Flink · Databricks · Druid · Hadoop · PostGIS · pgRouting · OpenLayers</i>	Feb 2017 – Aug 2022

Software Architect / Senior Researcher

Nov 2013 – Jan 2017

Wadi Makkah — Umm Al Qura University · Makkah, KSA

- Led architecture of Geo-Where, Masar IoT and Traffixity — three production platforms for Hajj traffic and crowd-density management.
- Built a PostGIS + pgRouting backend ingesting GPS/IoT signals to compute real-time density heatmaps and reroute pilgrims away from congestion.
- Authored 3 IEEE / IIT peer-reviewed publications (PerCom 2016, IEEE Big Data 2016, IIT 2016).

Java · Spring · PostGIS · pgRouting · MongoDB · OpenLayers · GeoServer · Eclipse Kura · Android

Team Lead — Mobile Applications

Jan 2011 – Jun 2013

TuttiFruitti Labs

- Designed and developed interactive children's learning and gamified Android applications, working in Agile / Scrum.

Android SDK · HTML · JavaScript · jQuery

Senior Software Development Engineer

Sep 2006 – Dec 2010

Siemens

- Contributed to R&D of the Inflexion Platform UI Designer for Nucleus OS; owned integration, scripting and build management.

Eclipse PDE · Ant · MSBuild · Java · ANTLR · xtUML

Software Engineer

Apr 2005 – Nov 2005

Vopium · Denmark / Pakistan

- Designed and developed the Vopium call-redirector application on Symbian C++ and J2ME for cost-effective international calls.

Symbian C++ · J2ME

PUBLICATIONS — IEEE / IIT

- Awan, S. A., et al. — "A Software Platform for Smart Data-driven Intelligent Transport Applications." IEEE PerCom Workshops, 2016.
- Awan, S. A., et al. — "Spatial-Crowd: A Big Data Framework for Efficient Data Visualization." IEEE Int'l Conf. on Big Data, 2016.
- Awan, S. A., et al. — "iCrowd — A Framework for Monitoring of (Identifiable) Crowd." 12th IIT Conference, 2016.

SAUDI VISION 2030 — PROGRAMME ALIGNMENT

NEOM / The Line / Oxagon / Trojena	Real-time geospatial data lakes, routing engines and IoT ingestion — the stack behind Mi-Stream and the Hajj platforms.
Riyadh Metro / Roshn / Diriyah / Qiddiya	Location-intelligence and crowd/traffic modelling transfer directly from the Hajj crowd-density systems.
Ministry of Hajj & Umrah Modernisation	Three production platforms shipped and three peer-reviewed publications in this exact domain.
Aramco / SABIC / Ma'aden	Upstream and asset geospatial digitisation aligns with the PostGIS + GeoServer + Spark stack led for 10+ years.

EDUCATION & CERTIFICATIONS

Bachelor of Computer Science (BCS) — Allama Iqbal Open University

DS102x — Machine Learning for Data Science & Analytics — edX

CS190.1x — Scalable Machine Learning — edX

Big Data & Social Physics — MIT

Open to relocate — GCC · Oman Property Investor Visa — in progress · English (fluent), Urdu (native), Arabic (basic)