

Misbahuddin Mohammed

Seattle, United States • 425-494-9930 • misbah_2703@yahoo.com • [LinkedIn Profile](#)

Professional Summary

Results-driven Senior Engineering Leader with 11+ years at Amazon building and scaling high-impact engineering organizations across AI/ML, data engineering, and full-stack development. Proven track record of growing teams from the ground up — including cross-geography hiring across emerging markets — and translating multi-year strategic vision into measurable business outcomes. Experienced in presenting org-level roadmaps to VP and Director leadership, driving \$43M+ in combined cost savings and revenue impact. Equally adept at deep technical execution and executive-level stakeholder influence.

- **Global Org Builder:** Built and managed distributed engineering orgs across India, Dubai, and Mexico — growing from 3 to 22 engineers against country-allocated headcount — while delivering systems at Amazon-wide platform scale.
 - **Executive Visibility:** Authored 3-year org roadmaps presented to multiple VPs; team achievements featured in VP-level Monthly Business Reviews alongside Directors across Amazon.
 - **AI/ML Builder:** Architected AMG as an Amazon-wide metadata platform addressing critical metadata gaps across 203,048 internal tables; independently extended five Amazon-built systems with 20 LLM-powered features across logistics, fraud detection, and data platforms — demonstrating applied prompt engineering, RAG, and structured outputs. [portfolio URL](#)
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Skills

Programming Languages: Python, R. **Web Development:** ReactJS. **Cloud Platforms:** AWS (Lambda, EC2, S3, DynamoDB, API Gateway, ECS, EKS, CloudWatch, IAM, Kinesis, Redshift).

System Design: Microservices architecture, scalable distributed systems, real-time data pipelines.

Containerization: Docker, Kubernetes.

AI/ML: Prompt engineering, RAG, LLM productionization, active learning. **Data Engineering:** SQL, Apache Spark, data mining, PII tagging, ETL pipelines.

Leadership: Org strategy, VP-level roadmap presentations, cross-geography team building, performance management. **Compliance:** GDPR, HIPAA, AWS KMS, encryption, access control.

Professional Experience

AMAZON (People Experience & Central Science) — Greater Seattle Area

Senior Software Development Manager *April 2022 – Present*

Joined a newly formed VP-led org of 80 people, owning AI/ML and data platform engineering. Delivered multiple production systems that scaled beyond the team's boundary — including an Amazon-wide metadata platform and a privacy-championed data obfuscation service. Managed 4–6 direct reports (~10 total) while driving outsized platform impact.

- Architected the Automated Metadata Generation (AMG) system using Claude LLM and active learning — adopted org-wide by Amazon's Business Data Technology team to address a platform-

scale gap: 73.2% of 203,048 internal tables lacked descriptions and 86.7% lacked column metadata. Achieved 99% generation accuracy, eliminating all manual review after 2 quarters.

- Transformed a legacy AWS QuickSight catalog into a RAG-based LLM-powered conversational data catalog, increasing team efficiency by 60% by eliminating dependency on a dedicated data engineering ticketing queue across 780+ datasets.
 - Designed and shipped a catalog metadata UI that auto-populated stub entries from the ETL manager in real time — closing a persistent sync gap between the RDL and catalog, surfacing completeness as a visible metric, and creating the organizational pressure that led to AMG being resourced and prioritized.
 - Architected a scalable Data Obfuscation Service (DOS) on AWS EKS, processing 3,700+ monthly jobs at 99.9% availability. Adopted by 3–4 partner teams and championed by Amazon's Privacy team as a benchmark — recommended to other teams seeking privacy approval, making DOS the de-facto internal standard for compliant data access.
 - Ensured GDPR and HIPAA compliance across 780+ datasets via AWS KMS field-level encryption, PII tagging pipelines, and a human-in-the-loop verification system — reducing manual curation by 500 hours/month.
 - Spearheaded the Research Data Lake (RDL) Catalog delivering \$1.2M in annual savings by eliminating data duplication and improving discoverability for data scientists and researchers.
 - Promoted one engineer and hired three SDEs; implemented a structured mentorship pairing program achieving a connections score of 4.8/5. Conducted 150+ interviews contributing to hiring across the broader org. Served as Bias Disruptor in annual calibration cycles.
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AMAZON (Corporate Logistics) — Hyderabad, India

Senior Software Development Manager *April 2018 – April 2022*

Led one of Amazon Logistics' most expansive engineering orgs across emerging markets. Owned end-to-end team strategy — from headcount allocation by country directors to multi-year roadmap authorship — while delivering products that drove \$43M+ in combined business impact across India, MENA, and ECCF.

- Scaled the engineering org from 3 to 22 engineers across India, Dubai, and Mexico — headcount allocated directly by country directors based on business case — building a truly cross-geography team operating across time zones and cultures.
 - Authored org-level vision documents and 3-year technology roadmaps, presenting to multiple VPs; strategic initiatives tracked and reviewed in the VP's Monthly Business Review alongside Directors and senior leaders across Amazon.
 - Demoed flagship products directly to VPs, earning visibility and sponsorship that accelerated team growth and expanded the org mandate into new country verticals.
 - Promoted 7 engineers; established stretch-project-based development frameworks and mentorship pairings that drove above-average retention and produced a promotable talent pipeline.
 - Led a comprehensive Native AWS Migration to microservices (Lambda, ECS, EKS), achieving 30% reduction in operational costs and enhanced scalability across multiple international sites.
 - Built the ISRO One-Touch BI dashboard with real-time AWS Kinesis integration and customizable KPI widgets, cutting decision-making latency by 40% and directly supporting inventory optimization and cost management objectives.
 - Delivered the Suraksha mobile and web application on AWS ECS with Auto Scaling, managing 107,000+ COVID-19 vaccination bookings under a hard government deadline — shipped with formally documented technical debt, resolved the following quarter with zero engineering velocity impact.
 - Drove \$8.8M in cost reductions and \$34.5M revenue uplift through effective leadership, strategic product delivery, and talent acquisition across the org.
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Manager, Web Development and Automation *April 2016 – March 2018*

Grew the team from 3 to 8 engineers and delivered 9 serverless products generating 5M+ views. Established the technical foundation — real-time pipelines, ML-based tooling, and automation — that underpinned the org's later scale.

- Engineered Project Infinity real-time data pipeline using Apache Kafka, Apache Flink, and Amazon Kinesis, achieving 70% reduction in processing latency through optimized data partitioning and in-memory caching — enabling live operational analytics at scale.
- Developed HEIMDALL ML-based truck prioritization tool integrating real-time GPS, traffic, and inventory data with a custom ML model, reducing vendor turn-around time from 6.7 to 2.2 hours and materially improving vendor experience.
- Implemented LoFAT (Location Fraud Automation Tool) for Amazon Foods targeting GPS spoofing and fake deliveries — saving \$0.6M and eliminating 37 planned headcount hires through automated anomaly detection and real-time tracking.
- Created a Reactive Scheduling ML model with demand forecasting and resource optimization, delivering \$800K in annual transportation savings through enhanced real-time rescheduling.
- Automated 42 manual processes via RPA and custom scripts — replacing data entry, report generation, and operational workflows — saving 30,000+ man-hours annually across the org.

Support Engineer *September 2014 – March 2016*

- Developed an R-Shiny web scheduling tool replacing an error-prone Excel system, achieving 60% improvement in scheduling efficiency and 80% reduction in scheduling errors.
- Maintained 94% team productivity in the Inbound Frontline team — 15% above the Amazon average — through tiered support systems and a comprehensive team knowledge base.
- Delivered high-impact Supply Chain projects: automated inventory reconciliation (–40% discrepancies), predictive maintenance (–30% equipment downtime), and dynamic load balancing (+25% dock utilization).

Education

OSMANIA UNIVERSITY — Hyderabad, Telangana Bachelor of Science in Economics