

# M. OMAR FARUQUE

AI Engineering Manager — Multi-Team Delivery, Architecture, and Production Reliability

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## Summary

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- AI Engineering Manager with 14+ years of experience spanning backend platforms, distributed systems, and engineering leadership.
- Lead multi-team delivery for production AI and backend systems, owning roadmap execution, architecture quality, and operational reliability.
- Blend hands-on architecture direction with stakeholder alignment, delivery discipline, and people leadership across Go, TypeScript, and service-oriented platforms.
- Maintain an active portfolio of open-source software and technical writing across reproducible research tooling, developer infrastructure, and distributed systems.

**Key Skills:** Engineering Leadership & Mentoring — Multi-Team Delivery — System Architecture — Distributed Systems — Go — TypeScript — Java — API Platforms (GraphQL, REST, gRPC) — Event-Driven Systems — Kubernetes — Observability — CI/CD

## Selected Technical Work

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- **tuneR (R):** Hyperparameter optimization tooling for mixOmics workflows, built to improve reproducibility and search efficiency in omics model tuning. [GitHub](#)
- **mixOmicsIO (R):** Utilities for converting large SummarizedExperiment datasets into mixOmics-ready analysis inputs. [GitHub](#)
- **drpc (Go/TypeScript):** Distributed RPC framework over libp2p and gRPC for peer-to-peer communication and protocol experimentation. [GitHub](#)
- **specly (TypeScript):** Workflow-based project control server for verifiable AI-assisted development and task completion. [GitHub](#)

## Selected Writing

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- "From Microservices to Microbiomes: A Software Architect's Guide to Conquering Omics Data" – Systems design perspective on omics data architecture and computational biology workflows.
- "tuneR: A Deep Dive into Hyperparameter Optimization with mixOmics" – Technical deep dive into reproducible omics model tuning and search design.

## Professional Experience

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**AI Engineering Manager**  
AstronLab, Dhaka, Bangladesh

*Apr 2024 – Present*

- Lead multiple engineering teams delivering production AI and backend platform initiatives with clear scope, timelines, and quality targets.
- Own roadmap execution across architecture direction, delivery governance, and production health for workflow and orchestration systems.

- Partner with stakeholders to convert business priorities into executable technical programs and balanced sprint plans.
- Mentor engineers and emerging leads while standardizing engineering practices across Go, Rust, and TypeScript teams.

**Environment:** Go, Rust, TypeScript, delivery governance, observability, platform reliability

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**Lead Backend Engineer (Golang)**

*Dec 2021 – Apr 2024*

[Zeals Co., Ltd.](#), Tokyo, Japan

- Designed and delivered GraphQL and REST APIs for customer-facing chatbot applications with a focus on scalability and maintainability.
- Built high-concurrency microservices in Go with gRPC-based integrations for reliable message processing and platform interoperability.
- Led code reviews and backend standards, strengthening testing discipline and service design quality across the team.
- Implemented CI/CD and search integrations to improve release discipline and internal content discovery workflows.

**Environment:** Go, GraphQL, REST, gRPC, CI/CD, Elasticsearch

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**Founding Software Engineer**

*Jan 2020 – Dec 2021*

[AstronLab](#), Dhaka, Bangladesh

- Helped establish the initial backend architecture, delivery practices, and engineering standards for AstronLab's early platform.
- Built core multi-tenant services with monitoring and production health foundations.
- Created `drpc`, a decentralized RPC framework over libp2p and gRPC, to support peer-to-peer communication experiments.

**Environment:** Go, microservices, multi-tenant services, monitoring, libp2p, gRPC

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**Senior Engineering Consultant (Rust/Go)**

*May 2021 – Nov 2021*

[Independent](#), Contract/Remote

- Provided backend and protocol engineering support for clients in fintech and blockchain.
- **ChainSafe Systems:** Contributed to Gossamer by porting protocol components from Rust to Go and improving FFI interactions.
- **Favorite Medium:** Built low-latency Go microservices and APIs for a multi-tenant finance application.

**Environment:** Go, Rust, blockchain protocols, FFI, low-latency backend services

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**Senior Engineering Team Lead**

*Feb 2012 – Aug 2018*

[SEBPO](#), Dhaka, Bangladesh

- Led teams delivering web services and API integrations for enterprise clients using Java and C#.

- Managed delivery sequencing, technical design decisions, and Agile execution against business priorities.
- Mentored engineers and translated stakeholder requirements into implementation plans and maintainable systems.

**Environment:** Java, C#, web services, API integrations, Agile delivery

## Publication

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- "Vehicle Classification in Video Using Deep Learning" – Conference paper published at MLDM 2019.

## Selected Honors

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- **Top Performer of the Month** – SEBPO
- **Employee of the Month** – SEBPO
- Top 3 finish, MIST Inter-University Programming Competition

## Education

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### **Doctoral Coursework in Computer Science**

*Sep 2018 – Aug 2021*

New Jersey Institute of Technology (NJIT), USA

*Completed coursework toward the Ph.D.; focus areas included computer vision and machine learning.*

*Publication: "Vehicle Classification in Video Using Deep Learning" – MLDM 2019*

### **Bachelor of Science in Computer Science**

*Jan 2008 – Jan 2012*

Military Institute of Science and Technology (MIST), Dhaka, Bangladesh