

Mohammed Nasser Ibrahim

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Professional Summary

Backend Engineer with strong expertise in Java and Python, specializing in high-performance backend systems, distributed architectures, and production-grade APIs. Proven experience in AI/LLM research engineering at Scale AI and Turing, evaluating model reasoning quality, mathematical correctness, and robustness across academic levels. Solid background in applied mathematics, statistics, and formal reasoning, with hands-on experience in Lean for proof verification. Adept at building reliable, scalable systems and research-grade evaluation pipelines.

Technical Skills

Programming Languages: Java, Python

Java & Backend Engineering: Core Java, OOP, Collections, Streams, Concurrency, Multi-threading, JVM Internals, Virtual Threads, Spring Boot, Spring MVC, Spring Security, JWT, OAuth2, Spring Data JPA, Hibernate, Microservices, REST APIs, Clean Architecture

Databases & Messaging: PostgreSQL, MySQL, Oracle, SQL Server, ClickHouse, Kafka, WebSockets

Testing & DevOps: JUnit, Mockito, SpringBootTest, Docker, CI/CD, Git, Maven, Gradle

Python & Data: Flask, Django, Pandas, NumPy, Scientific Computing, Reporting Systems

AI / Research Engineering: LLM Evaluation, Model Reasoning Analysis, Dataset Curation, Benchmark Design, Formal Reasoning, LEAN (Theorem Prover)

Mathematics: Probability, Statistics, Regression, Hypothesis Testing, Time Series Analysis, Formal Proof Verification

Professional Experience

Pod Lead — Research Engineering
Turing Enterprises Inc

Jan 2025 – Mar 2025

- Led a research pod evaluating advanced mathematical and AI/LLM outputs across undergraduate, master's, and PhD levels.
- Owned task planning, quality standards, and final delivery of research evaluations with strict mathematical rigor.
- Conducted formal reasoning and proof verification using the Lean theorem prover to ensure machine-verifiable correctness.
- Coordinated contributors, reviews, and timelines to maintain consistency and high proof quality.

- Acted as technical point of contact and mentored researchers on formal proof construction and validation in LEAN.

Java Software Engineer — RLHF System

Turing Enterprise Inc

Sep 2024 – Nov 2025

- Core member of a seven-engineer team responsible for designing, developing, and maintaining Turing's primary data labeling platform.
- Served as a key maintainer of Turing's internal RLHF (Reinforcement Learning from Human Feedback) platform.
- Delivered major feature enhancements and architectural improvements to improve reliability and scalability.
- Optimized platform performance to support high concurrency and increasing data volumes.
- Collaborated with globally distributed engineering teams from leading technology companies on production-grade systems.

Senior Software Research Analyst

Turing Enterprise Inc

Sep 2024 – Sep 2025

- Contributed to AI/ML research and evaluation initiatives focused on advanced mathematics and quantitative reasoning.
- Performed probability, statistics, regression, hypothesis testing, and time-series analysis tasks.
- Evaluated AI-generated outputs for correctness, clarity, and depth of reasoning.
- Reviewed academic research, validated methodologies, and curated high-quality datasets to improve LLM performance.

LLM Engineer

Scale AI, San Francisco, CA

Sep 2023 – Dec 2023

- Worked as an LLM Engineer contributing to the evaluation and improvement of large language models.
- Assessed model outputs for correctness, reasoning quality, robustness, and task alignment across technical domains.
- Designed evaluation criteria, identified failure patterns, and provided structured feedback to enhance model performance.
- Collaborated with cross-functional teams to deliver high-quality benchmarks supporting LLM training and validation.

Backend Engineer (AML Systems)

DataGear

Oct 2023 – Present

- Developed core backend modules for large-scale Anti-Money Laundering and compliance reporting systems.
- Built RESTful APIs with filtering, sorting, pagination, and multi-database support.
- Implemented AML modules including KYC, FATCA, GOAML, DGAML, and fraud analytics.
- Delivered automated PDF/CSV reporting engines, background jobs, and real-time WebSocket communication.

Freelance — Systematic Trading Platform

Oct 2025

- Built a real-time market analytics and trading platform with high-frequency data ingestion.
- Designed ClickHouse schemas and concurrent streaming pipelines.
- Implemented Monte Carlo simulations, VaR, drawdown, and portfolio risk metrics.

Projects

- **E-Commerce Backend System:** Spring Boot backend with JWT/OAuth2, PostgreSQL, and CI/CD pipelines.
- **Real-Time Data Processing System:** Microservices architecture using Spring Boot, Kafka, and ClickHouse.
- **AI-Powered Traffic Control System:** Real-time congestion prediction and adaptive signal optimization.
- **Cambridge Dataset Analysis (Kaggle):** Clustering, EDA, and model optimization using Python.

Education

Bachelor's in Pure Mathematics and Computer Science

Al-Azhar University, Cairo, Egypt

Final Grade: Very Good