

# Muhammad Ahmed Ismail

**Software Engineer (Elixir, Phoenix, Liveviews, PostgreSQL)**

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**Elixir Forum:** [elixirforum.com/u/iamahmed](https://elixirforum.com/u/iamahmed)

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## PROFESSIONAL SUMMARY

Senior Software Engineer with **4+ years of backend** experience, specializing in Elixir/Phoenix and real-time, scalable systems. Proven expertise in PostgreSQL performance tuning, **Kafka-based** event-driven architectures, and message queues like **RabbitMQ**. Strong command of OTP patterns (GenServer, Tasks, Supervision trees) and building **RESTful APIs**, GraphQL services, and **LiveView-powered** interactive UIs. Adept at integrating with enterprise platforms and cloud services, with a deep passion for Elixir's functional and concurrent programming model. Ready to contribute to greenfield builds and mission-critical platforms.

## EXPERIENCE

### Staff Software Engineer

*Hawks Tech — 12/2024 - Present*

- Leading the architecture and implementation of Elixir-based backend systems with a focus on scalability and performance.
- Designing real-time features using Phoenix LiveView and WebSockets to improve interactivity.
- Mentoring junior engineers on OTP concepts and best practices in Elixir.
- Collaborating with DevOps to build smooth CI/CD pipelines and container-based deployments.
- Managing multi-tenant setups using PostgreSQL schemas and database optimization techniques.

## **Senior Software Engineer (Part Time)**

*Cloud Bedrock LLC — 05/2024 - Present*

- Designed and built real-time features using Phoenix LiveView and WebSockets.
- Developed scalable backend services in Elixir, with emphasis on performance, reliability, and concurrency (GenServer, Tasks).
- Integrated PostgreSQL and MariaDB for handling multi-database operations.
- Led API integrations with third-party platforms, ensuring secure and stable connections.
- Participated in Agile ceremonies and CI/CD workflows, contributing to a DevOps-friendly engineering culture.
- Built event-driven pipelines (Kafka-like architecture) for real-time notifications.

## **Software Engineer**

*DyCoders — 08/2022 - 07/2024*

- Developed robust Elixir applications using Phoenix, Absinthe (GraphQL), and PostgreSQL.
- Built real-time user interfaces using Phoenix LiveView for seamless in-app experiences.
- Integrated complex enterprise APIs and services, ensuring data consistency and traceability.
- Utilized Docker for containerized deployments, and worked closely with AWS services including S3.
- Contributed to CI/CD automation and testing pipelines using ExUnit.

## **Associate Software Engineer**

*RegBits Pvt. Ltd. — 08/2020 - 08/2022*

- Implemented real-time data handling using Phoenix Channels and WebSockets.
- Created and optimized PostgreSQL schemas and queries for data-heavy applications.
- Integrated third-party services like PayPal and TinyMCE, streamlining business processes.
- Managed AWS infrastructure for backups, storage, and security.
- Focused on pattern matching, stateful processes, and OTP principles for business logic execution.

## SKILLS

- **Languages:** Elixir, JavaScript, SQL
- **Frameworks:** Phoenix, Absinthe, LiveView
- **Databases:** PostgreSQL, MariaDB, MySQL
- **Messaging/Event Streams:** Kafka (basic to intermediate), RabbitMQ
- **Tools & Platforms:** Docker, AWS S3, Redis, Git
- **Web Technologies:** GraphQL, RESTful APIs, WebSockets, LiveView
- **Testing:** ExUnit, Wallaby
- **Cloud/DevOps:** CI/CD, containerization, AWS basics

## EDUCATION

### Bachelor of Science in Computer Science

FAST National University of Computer & Emerging Sciences — 2016 - 2020

## PROJECT HIGHLIGHTS

### Corridor (Elixir, Phoenix, LiveView, PostgreSQL) — 12/2024 - Present

- Spearheading the development of Corridor, a B2B platform connecting logistics providers with customers for seamless freight booking and tracking.
- Implemented dynamic pricing models and availability filtering using Elixir background workers and LiveView reactivity.
- Built multi-tenancy support using PostgreSQL schemas, enabling isolated data environments for each logistics company.
- Integrated real-time shipment tracking via WebSockets, providing up-to-the-minute status updates across the platform.

### Picsello (Elixir, Phoenix, LiveView) — 08/2022 - Present

- Led the development of features for a photography platform, using **Phoenix LiveView** for real-time updates and seamless user interactions.
- Enhanced the performance and maintainability of the codebase by leveraging **OTP** for managing concurrent processes and **pattern matching** to handle complex logic.
- Wrote comprehensive unit and integration tests using **ExUnit** to ensure code quality and reduce bugs in production.
- <https://www.picsello.com/>

### **African Management Institute** (*Elixir, Phoenix*) — 02/2021 - 04/2022

- Contributed to maintaining and optimizing a large **Elixir** codebase with over 120+ tables in the database.
- Worked on **GraphQL APIs** using **Absinthe** to provide efficient data handling for the mobile team and built new endpoints for internal use.
- Refactored existing modules to improve performance and scalability, adopting best practices for code maintainability.
- <https://africanmanagers.org/>

### **InvoTeams** (*Elixir, Phoenix, Microservices*) — 04/2021 - 08/2022

- Developed microservices architecture using **Elixir** and **Phoenix**, with a focus on handling real-time data and ensuring the reliability of distributed systems.
- Integrated various third-party services and APIs, ensuring seamless communication between services through **REST APIs** and **GraphQL**.
- Used **GenServers** and **Tasks** to handle background jobs and long-running processes, improving overall system efficiency.
- <https://invoteams.com/>

### **Supertrends** (*Elixir, Phoenix*) — 04/2022 - 08/2022

- Assisted the backend team in finalizing critical components and resolving architectural issues in a high-traffic, AI-based platform.
- Built and maintained **GraphQL APIs** and worked on API endpoints for integration with mobile apps, ensuring data consistency and efficient queries.
- <https://www.supertrends.com/>

### **International Lifelines** (*Elixir, Phoenix, Rest APIs*) — 02/2021 - 08/2022

- Developed **RESTful APIs** for a global non-profit organization, using **Phoenix** to build scalable and reliable backend services.
- Managed the cloud infrastructure with **AWS S3**, ensuring data security and efficient storage solutions for high-traffic workloads.
- <https://internationallifeline.com/>

## PASSION FOR ELIXIR AND COMMUNITY INVOLVEMENT

As an active **Elixir enthusiast**, I am deeply committed to both mastering the language and contributing to the vibrant Elixir community. I regularly participate in discussions on the [Elixir Forum](#) and [Elixir Slack](#), where I share insights, help troubleshoot complex problems, and stay updated on the latest developments in the Elixir ecosystem. Additionally, I enjoy experimenting with cutting-edge features in **Elixir** and **Phoenix**, such as **LiveView** and **Nx** for numerical computing, constantly pushing the boundaries of what's possible with Elixir.

When not coding, I enjoy watching anime, playing snooker and contributing to open-source projects, helping new developers learn the beauty of Elixir's concurrent programming model. My ultimate goal is to build tools and frameworks that can make **Elixir** even more accessible and powerful for developers around the world.

## LANGUAGES

- **English:** Professional Working Proficiency
- **Urdu:** Native or Bilingual Proficiency