

# Muhammad Ghufran

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## SUMMARY

As a graduate in Informatics from Syiah Kuala University, I, Muhammad Ghufran, have developed a strong foundation in software development. Now working as a Software Engineer, I apply my knowledge and skills in real-world technology solutions. Throughout my academic journey and professional experience, I have continuously deepened my understanding of software engineering principles and practices. I am confident that my educational background and hands-on experience make me a valuable contributor in the technology industry.

## EDUCATION

### Syiah Kuala University

Bachelor of Science in Computer Science (GPA: 3.56 / 4.00)

Graduated August 2025

Banda Aceh, Aceh

- **Relevant Coursework:** Web Development, Frontend Development, Backend Development, DevOps, Mobile App Development

## EXPERIENCE

### Teaching Assistant

Software Development and Operations (*Pengembangan dan Operasional Perangkat Lunak*)

Aug 2024 – Dec 2024

Syiah Kuala University

- Implemented Jira for project management training, teaching students agile methodologies such as Scrum and Kanban, including creating user stories, managing sprints, and tracking issue lifecycles.
- Conducted hands-on workshops on Docker, enabling students to containerize applications, manage dependencies, and deploy scalable solutions in real-world scenarios.
- Introduced GitHub Actions for CI/CD pipelines, guiding students in automating testing, building, and deployment workflows.

### Backend Development Intern

Jul 2024 – Aug 2024

Aceh Social Service Department (*Dinas Sosial Provinsi Aceh*)

Banda Aceh, Aceh

- Developed a comprehensive employee information system backend for Aceh Social Service Department using Express.js and MongoDB for efficient data management and API functionality.
- Designed and implemented RESTful APIs for employee data management, including CRUD operations, authentication, and role-based access control.
- Optimized database schema design and queries in MongoDB to ensure scalable and efficient data retrieval for the employee information system.

### Bangkit Academy

Feb 2024 – Jun 2024

Mobile Development

Online

- Developed expertise in mobile development using Kotlin, including hands-on projects creating dynamic and responsive Android applications.
- Worked collaboratively on a capstone project, Fintrack, creating a financial app for SMEs and integrating machine learning models for expense categorization and financial analysis, including forecasting.
- Enhanced problem-solving skills by tackling real-world mobile development challenges, optimizing app performance, and ensuring user-friendly interfaces.

### Software Developer

Feb 2023 – Present

Freelance

- Developed expertise in mobile development using Kotlin, including hands-on projects creating dynamic and responsive Android applications.
- Worked collaboratively on a capstone project, Fintrack, creating a financial app for SMEs and integrating machine learning models for expense categorization and financial analysis, including forecasting.
- Enhanced problem-solving skills by tackling real-world mobile development challenges, optimizing app performance, and ensuring user-friendly interfaces.

## PROJECTS

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### **Inventory Management System | Full-Stack Multi-Tenant Inventory Platform**

- **Technologies:** React 19, TypeScript, Node.js 24, Express.js, PostgreSQL, Prisma ORM, Redis, Docker, TanStack Query, Tailwind CSS.
- Developed a scalable multi-tenant inventory management system with real-time stock tracking, QR code generation, and role-based access control supporting multiple stores and team members.
- Built RESTful API with Express.js and Prisma ORM, implementing Redis caching for 40% improved query performance and PostgreSQL for reliable data persistence.
- Designed modern React 19 frontend with TypeScript, TanStack Query for optimized data synchronization, and shadcn/ui components for consistent UI/UX.
- Implemented JWT authentication with refresh tokens, email verification via Resend API, and comprehensive stock movement tracking (sales, purchases, transfers, returns).
- Established automated CI/CD pipeline with GitLab, Docker containerization, and zero-downtime deployment strategy.

### **SIPEMA | Public Complaint System for USK**

- **Technologies used:** Hono, TypeScript, PostgreSQL, Prisma ORM.
- Engineered the backend for a public complaint management system using the Hono framework and TypeScript.
- Designed and implemented RESTful APIs for seamless complaint submission, tracking, and management.
- Architected a robust database using PostgreSQL and Prisma ORM for efficient data handling and query optimization.
- Implemented secure user authentication and a notification system for real-time status updates.

### **SIPEDAS | Employee Information System for Aceh Social Service Department**

- **Technologies used:** Express.js, Node.js, MongoDB.
- Developed a web-based employee information system to streamline data management for the Aceh Social Service Department.
- Built a scalable backend using Express.js and Node.js with a high-performance MongoDB database.
- Implemented a secure, role-based authentication system and an approval workflow for data integrity.

### **Fintrack | Financial App for SMEs**

- **Technologies used:** Machine Learning, Android.
- Developed a financial management application for Small and Medium-sized Enterprises (SMEs).
- Integrated machine learning models for expense categorization and financial forecasting.
- Implemented data visualization features to provide insights into financial trends and spending patterns.

## TECHNICAL SKILLS

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**Languages:** Python, Kotlin, JavaScript, Python, PHP, HTML, CSS

**Technologies:** GIT, TypeScript, PHP, Kotlin, React.js, Node.js, Express.js, Hono.js, Next.js, Laravel, Tailwind, MySQL, PostgreSQL, MongoDB, ChatGPT

**Concepts:** Object-Oriented Programming (OOP), RESTful API design, Test-driven development (TDD), Agile methodologies, Microservices architecture, Continuous integration/continuous deployment (CI/CD), Software Development

## ORGANIZATIONAL INVOLVEMENT

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### **Vice Chair of Communication & Information, Informatics Student Association**

2023

*Syiah Kuala University*

*Banda Aceh, Aceh*

- Led communication and information efforts to strengthen organization engagement and visibility.
- Planned and implemented creative strategies to enhance organization activities and events.
- Created and managed the Instagram presence for Informatics (@hmif.fmipausk), ensuring compelling and relevant content to increase interaction with members and wider audience.
- Collaborated with other departments to ensure smooth coordination and achievement of organizational goals.

### **Member of Research and Development Informatics Student Association**

2024

*Syiah Kuala University*

*Banda Aceh, Aceh*

- Engaged in research and development activities, contributing to the advancement of student-led projects.
- Collaborated with fellow members to explore new ideas and technologies for innovative projects.

**Member of Student Representative Council (DPM)**

2024

*Syiah Kuala University**Banda Aceh, Aceh*

- Participated in student governance and representation activities within the university.
- Contributed to policy discussions and decision-making processes affecting student welfare.
- Served as a liaison between students and university administration to address student concerns.