

Rafsun Jany Arman

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EXPERIENCE

Senior Software Engineer <i>SELISE Group</i>	Nov. 2025 – Present <i>Dhaka, Bangladesh (Hybrid)</i>
<ul style="list-style-type: none">Architected a secure, on-premise Enterprise Generative AI Ecosystem (Web, Mobile, Backend) using LangGraph, Redis, and WebSockets, optimizing resource utilization to reduce inference latency by ~15% while enabling comprehensive real-time communication.Engineered a robust RAG pipeline utilizing Qdrant and LangChain to process complex file structures, delivering context-aware LLM responses with high precision based on private enterprise data.Orchestrated a Multi-Agent System integrating STT/TTS and specialized agents (via Perplexica and SearXNG) for real-time web search capabilities beyond static training data.Developed a high-concurrency Collaborative Chat Engine with secure link-sharing and dynamic participant management using FastAPI and SignalR, streamlining group problem-solving.	
Software Engineer <i>SELISE Group</i>	Nov. 2023 – Nov. 2025 <i>Dhaka, Bangladesh (Remote)</i>
<ul style="list-style-type: none">Developed the all-in-one Ski World Cup App using Flutter and Bitmovin, delivering sub-3s latency live streaming and real-time athlete telemetry for over 30k users.Built a dynamic Maritime Data Visualization Dashboard for a global marine services client, enabling predictive alerts and efficient data filtering across multiple operational systems.Engineered a scalable IoT Middleware using Java Spring Boot, RabbitMQ, and TimescaleDB to orchestrate millions of telemetry messages for Smart Metering and Industrial use cases.Designed end-to-end Smart Metering Integration solutions, automating data collection from diverse hardware protocols to optimize utility consumption analysis.	
Junior Software Engineer <i>SELISE Group</i>	Aug. 2022 – Oct. 2023 <i>Dhaka, Bangladesh (Hybrid)</i>
<ul style="list-style-type: none">Extended an IoT Commodity Tracking Platform for a leading mining company, ensuring accurate shipment monitoring and bag condition tracking across international ports.Created a Production Cost Monitoring System for a Swiss food manufacturer, utilizing IoT data to track electricity usage and streamline operational efficiency, resulting in reduced waste.Enabled White-Label IoT Solutions by developing customizable branding tools and rule chains, allowing B2B clients to tailor platforms to specific operational branding needs.	
Intern Software Engineer <i>SELISE Group</i>	Mar. 2022 – Jul. 2022 <i>Dhaka, Bangladesh (Remote)</i>
<ul style="list-style-type: none">Conducted R&D on ThingsBoard IoT platform features and designed custom D3.js data visualization graphs to meet specific client reporting requirements.Published an NPM package for file uploads in NativeScript (Android API ≥ 30) and identified security vulnerabilities in internal systems, earning recognition.	

RESEARCH

Fish classification using saliency detection <i>Computer Vision, U2-Net, HOG</i>	
<ul style="list-style-type: none">Developed a fish classification system utilizing saliency detection (depending on shape and texture) and ensemble learning (KNN, SVM, etc.), achieving up to 100% accuracy on local fish datasets.	
Fish Observatory and Census System (FOCS) <i>Image Processing, Research</i>	
<ul style="list-style-type: none">Proposed and implemented a census system for automated fish monitoring and population estimation using advanced image processing techniques.	
Parkinson's Disease Classification <i>Deep Learning, DenseNet121, InceptionV3</i>	
<ul style="list-style-type: none">Built an image-based detection system using DenseNet121 and InceptionV3 to classify hand-drawn spirals/waves, achieving high accuracy (96.67%) in differentiating healthy vs. affected subjects.	
Bangla & Bus-Mama <i>NLP, Python, Mobile Dev</i>	
<ul style="list-style-type: none">Created 'Bangla', a Python library for Bengali text processing and lemmatization using Trie data structures.Applied the library in 'Bus-Mama', a real-time tracking application with a Bengali-language chatbot for university students.	

PROJECTS

CrewsBoard | Python, CrewAI, RAG, Multi-Agent

- Engineered an AI agent task management microservice supporting multi-model architectures and multi-tenancy.
- Implemented a RAG knowledge base to enhance agent intelligence and context retrieval accuracy.

Adaptive Marketing AI | AI/ML, Python, Marketing API

- Built an intelligent marketing engine that interfaces with multiple platforms to generate and deploy targeted ad campaigns based on data-driven insights.

Canvas | FastAPI, React, CrewAI

- Developed a modern, modular interface for orchestrating AI agents, featuring value-based flow management and visualization.
- Designed a scalable architecture using FastAPI and SQLModel for efficient agent workflow handling.

Fire-Free | IoT, Angular, Ionic, Node.js

- Created a comprehensive fire safety solution combining hardware sensors (gas/GPS) with a mobile app for real-time alerts.
- Integrated Google Maps for victim location tracking and routing, aimed at improving firefighter response times.

TECHNICAL SKILLS

Languages: Python, Java, TypeScript, Dart, SQL

Frameworks: FastAPI, Spring Boot, React, Flutter (BLoC, Riverpod), CrewAI, LangChain

Databases & Cloud: PostgreSQL, TimescaleDB, MongoDB, Qdrant, Redis, Firestore, RabbitMQ

Developer Tools: Git, Docker, LangGraph, Perplexica, SearXNG, Bitmovin

Concepts: Generative AI, RAG, Microservices, IoT, Multi-Agent Systems, System Architecture, CI/CD

HONORS & AWARDS

Language & Knowledge Engineering Lab | *8th Int. Symposium (LKE 2021)*

2021

Top 100 | *Idea Contest Mujib 100*

2021

Honorable Mention | *CanSat Competition (BRAC)*

2019

Trainer | *Mechatronics Club, GSTU*

2019

EDUCATION

Gopalganj Science and Technology University (GSTU)

Gopalganj, Bangladesh

Bachelor of Science in Computer Science & Engineering; CGPA: 3.41

Jan. 2017 – May 2022