

Md Omar Faruqe **RIYAD**
Software Engineer

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 EDUCATION

2018–2023 **B.Sc. in Computer Science and Engineering**
Shahjalal University of Science and Technology (SUST)
CGPA : **3.53/4.00** (Last two years : **3.83**)

★ STANDARDIZED TEST SCORES

GRE : 317/340 (Quantitative : 160, Verbal : 157, Analytical Writing : 3)
TOEFL : 104/120 (Reading : 29, Listening : 27, Speaking : 23, Writing : 25)

 RESEARCH EXPERIENCE

Participation in Shared Tasks

- 2024

BRAINTEASER : A Novel Task Defying Common Sense - SemEval 2024
 - > Designed data augmentation pipelines to improve the robustness of the model for common sense reasoning tasks.
 - > Conducted a comparative analysis on advanced language models.
- 2023

Violence Inciting Text Detection (VITD) – BLP Workshop at EMNLP 2023
 - > Applied semi-supervised self-training techniques to address the small size of the data set and class imbalance, utilizing external data sets to improve model robustness.
 - > Enhanced dataset diversity and quality through back-translation using the Googletrans API, improving semantic variety, and correcting linguistic inconsistencies.
 - > Implemented an ensemble approach with bagging and majority voting to reduce prediction variance.

Undergraduate Thesis

- 2022

Improving Answer Space Diversity in Visual Question Answering (VQA) through Automatic Question and Answer Generation
 - > Conducted a comparative study of various VQA methods, analyzing their limitations
 - > Addressed Answer Space Diversity limitation in VQA v2 dataset by augmenting training data with automatically generated, contextually relevant question-answer pairs.

 PUBLICATIONS

Deja Vu at SemEval 2024 Task 9 : A Comparative Study of Advanced Language Models for Commonsense Reasoning
Accepted in *The SemEval 2024, NAACL, Mexico*


Team_Syrax at BLP-2023 Task 1 : Data Augmentation and Ensemble Based Approach for Violence Inciting Text Detection in Bangla
Accepted and Presented at *The BLP 2023, EMNLP, Singapore*

 SKILLS

| | |
|--------------------------|--|
| Languages | Java, C/C++, Python, JavaScript, SQL, Shell |
| Frameworks & Libraries | JEE (JSF, CDI, EJB, JPA, JMS), GlassFish, PrimeFaces, Flask, Express.js, React |
| Databases & Data Storage | PostgreSQL, MySQL, Neo4j (Graph), MinIO (S3-compatible) |
| DevOps & Observability | Docker, Git, GitHub Actions CI/CD, Prometheus, Grafana, Loki |
| Security | Jakarta Security, JWT, Basic Cryptography |
| AI & LLMs | LangChain, RAG, OpenAI, Ollama, Vector Database (ChromaDB) |
| Tools | Flyway, JasperReports, OpenMQ, Postman, \LaTeX |

 TEACHING EXPERIENCE

- Present
2024

Course Instructor, DYNAMIC LEARNING,
 - > Authored and instructed a course - Enterprise Web Development with JEE, JSF, and PrimeFaces. 
 - > Demonstrated core architectural patterns including component-driven design, CDI/EJB integration, backing bean scopes, and JSF lifecycle and state management.

Present
April 2023

Software Engineer, DYNAMIC SOLUTION INNOVATORS, Bangladesh

- Engineered secure and scalable enterprise Java EE applications for critical government infrastructures, translating complex offline bureaucratic processes into streamlined digital workflows.
- Served as a key member of the internal cybersecurity team, conducting **threat modeling sessions** and providing guidance on secure coding practices for projects across the organization.

Key Projects :

E-Appeal (NBR • USAID)

- Pioneered the company’s first large-scale JSF application, establishing engineering guidelines and best practices that became the standard for subsequent projects.
- Designed a **multi-layer architecture** (View, Service, Repository) with strict separation of concerns.
- Implemented centralized **RBAC** with Jakarta Security and custom form-based authentication.
- Integrated JMS for **asynchronous, decoupled event handling** (email/SMS notifications).

Project Scratch

Internal reusable Core Services Platform to accelerate development.

- Engineered centralized **observability stack** with Prometheus, Loki, and Grafana; exposed JMX metrics from GlassFish to a Prometheus endpoint for real-time application monitoring.
- Dockerized the complete application stack**, including GlassFish, PostgreSQL, MinIO, and RabbitMQ to create a portable development environment.
- Developed a reusable Lazy Data Model component and **contributed a related feature enhancement to the official PrimeFaces open-source library**. (PR #12865)

SHMS (Smart Hotel Management System)

Nationwide licensing and registration system for hotels and restaurants

- Contributed to the design and implementation of a **state-driven approval workflow**, reusable across multiple application types, minimizing code duplication
- Utilized **AOP** to cleanly separate cross-cutting concerns like notifications from core business logic.

BCIC-ERP

End-to-end Integrated ERP system for process automation across 12 independent modules

- Assumed full ownership** of the Procurement module, leading the process from business analysis (As-Is/To-Be modeling) and database schema design to hands-on development and successful client delivery.

Java
JEE
JSF
Primefaces
CDI
EJB
JPA
PostgreSQL
JMS
Glassfish
Prometheus
Grafana
Loki


PROJECTS AND OPEN SOURCE CONTRIBUTION

KNOWLEDGERELAY : AI-BASED KNOWLEDGE TRANSFER AGENT
2025

github.com/riyadomf/knowledgeRelay

Built a RAG system to preserve project-specific knowledge base and assist new team members via contextual Q&A.

- Engineered a multi-stage knowledge ingestion pipeline that automatically generates question-answer pairs from documents to fine-tune the retrieval process.
- Integrated ChromaDB with vector embeddings and metadata-based filtering for efficient retrieval.
- Implemented a contextualize_qa_chain to rephrase user queries using chat history for more accurate retrieval.

Python
FastAPI
LangChain
ChromaDB
OpenAI
Ollama
React

PRIMEFACES : JPALAZYDATAMODEL FEATURE ENHANCEMENT
2024

github.com/primefaces/primefaces/pull/12865

Contributed to the PrimeFaces open-source project by adding the ability to inject custom FilterMeta into the JPALazyDataModel component. This enhancement allows developers to perform advanced, customizable filtering within DataTables.

Java
JSF
Primefaces
JPA

SHOPAHOLIC
2022

github.com/Nowshadjunaed/Shopaholic

Built a full-stack e-commerce platform connecting customers, banks, and suppliers.

JavaScript
Node.js
Express.js
MongoDB
React
Redux

BREVITY
2021

github.com/riyadomf/Brevity

Developed a responsive blog platform designed to connect beginners with experts in various fields. The platform enables experienced individuals to share knowledge, resources, and help others with learning difficulties.

Python
Flask
MySQL
JavaScript
HTML
CSS

PROBLEM SOLVING

Solved over 500+ problems with C/C++ in different online judges

- > Vjudge:  [riyad2017331042](#) | LeetCode:  [riyad42](#) | LightOJ:  [riyadomf](#)
- > StopStalk Profile:  [riyadomf](#)

CERTIFICATIONS & ACHIEVEMENTS

- > 6th Place out of 30 teams – DSI AI Agent Hackathon, 2025
- > ISC2 Certified in Cybersecurity (CC)
- > Top 20 (Rank 19 → 12 post-eval) – Violence Inciting Text Detection (VITD), BLP 2023

EXTRA-CURRICULARS AND ACHIEVEMENTS

- > Volunteer, IEEE International Conference on Bangla Speech and Language Processing (ICBSLP), 2019.
- > Ranked 11th in BUET CSE Fest 2022 AI Contest and 19th in Battle of Brains by Green University
- > Runners-Up, Intra-Department Football Tournament, 2022.