

# Md Omar Faruqe RIYAD

## Software Engineer

[github.com/riyadomf](https://github.com/riyadomf) [linkedin.com/in/riyadomf](https://linkedin.com/in/riyadomf) [Google Scholar](https://scholar.google.com/citations?user=riyadomf) [riyadomf.github.io](https://riyadomf.github.io) [@ riyad.omf@gmail.com](mailto:riyad.omf@gmail.com)

## 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 | <b>BRAINTEASER : A Novel Task Defying Common Sense - SemEval 2024</b> <ul style="list-style-type: none"><li>➢ Designed data augmentation pipelines to improve the robustness of the model for common sense reasoning tasks.</li><li>➢ Conducted a comparative analysis on advanced language models.</li></ul>  |
| 2023 | <b>Violence Inciting Text Detection (VITD) – BLP Workshop at EMNLP 2023</b> <ul style="list-style-type: none"><li>➢ 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.</li><li>➢ Enhanced dataset diversity and quality through back-translation using the Googletrans API, improving semantic variety, and correcting linguistic inconsistencies.</li><li>➢ Implemented an ensemble approach with bagging and majority voting to reduce prediction variance.</li></ul> |

### Undergraduate Thesis

- |      |  |
|------|--|
| 2022 | <b>Improving Answer Space Diversity in Visual Question Answering (VQA) through Automatic Question and Answer Generation</b> <ul style="list-style-type: none"><li>➢ Conducted a comparative study of various VQA methods, analyzing their limitations</li><li>➢ Addressed Answer Space Diversity limitation in VQA v2 dataset by augmenting training data with automatically generated, contextually relevant question-answer pairs.</li></ul> |
|------|--|

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

## TEACHING EXPERIENCE

- |                 |  |
|-----------------|--|
| Present<br>2024 | <b>Course Instructor, DYNAMIC LEARNING,</b> <ul style="list-style-type: none"><li>➢ Authored and instructed a course - Enterprise Web Development with JEE, JSF, and PrimeFaces. </li><li>➢ Demonstrated core architectural patterns including component-driven design, CDI/EJB integration, backing bean scopes, and JSF lifecycle and state management.</li></ul> |
|-----------------|--|

## JOB EXPERIENCE

Present April 2023	<p><b>Software Engineer, DYNAMIC SOLUTION INNOVATORS, Bangladesh</b></p> <ul style="list-style-type: none"><li>➢ Engineered secure and scalable enterprise Java EE applications for critical government infrastructures, translating complex offline bureaucratic processes into streamlined digital workflows.</li><li>➢ Served as a key member of the internal cybersecurity team, conducting <b>threat modeling sessions</b> and providing guidance on secure coding practices for projects across the organization.</li></ul> <p><b>Key Projects :</b></p> <p><b>E-Appeal (NBR • USAID)</b></p> <ul style="list-style-type: none"><li>➢ Pioneered the company's first large-scale JSF application, establishing engineering guidelines and best practices that became the standard for subsequent projects.</li><li>➢ Designed a <b>multi-layer architecture</b> (View, Service, Repository) with strict separation of concerns.</li><li>➢ Implemented centralized <b>RBAC</b> with Jakarta Security and custom form-based authentication.</li><li>➢ Integrated JMS for <b>asynchronous, decoupled event handling</b> (email/SMS notifications).</li></ul> <p><b>Project Scratch</b></p> <p><i>Internal reusable Core Services Platform to accelerate development.</i></p> <ul style="list-style-type: none"><li>➢ Engineered centralized <b>observability stack</b> with Prometheus, Loki, and Grafana; exposed JMX metrics from GlassFish to a Prometheus endpoint for real-time application monitoring.</li><li>➢ <b>Dockerized the complete application stack</b>, including GlassFish, PostgreSQL, MinIO, and RabbitMQ to create a portable development environment.</li><li>➢ Developed a reusable Lazy Data Model component and <b>contributed a related feature enhancement to the official PrimeFaces open-source library</b>. (PR #12865)</li></ul> <p><b>SHMS (Smart Hotel Management System)</b></p> <p><i>Nationwide licensing and registration system for hotels and restaurants</i></p> <ul style="list-style-type: none"><li>➢ Contributed to the design and implementation of a <b>state-driven approval workflow</b>, reusable across multiple application types, minimizing code duplication</li><li>➢ Utilized <b>AOP</b> to cleanly separate cross-cutting concerns like notifications from core business logic.</li></ul> <p><b>BCIC-ERP</b></p> <p><i>End-to-end Integrated ERP system for process automation across 12 independent modules</i></p> <ul style="list-style-type: none"><li>➢ <b>Assumed full ownership</b> 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.</li></ul> <p style="text-align: right;"><span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">Java</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">JEE</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">JSF</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">Primefaces</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">CDI</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">EJB</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">JPA</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">PostgreSQL</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">JMS</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">Glassfish</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">Prometheus</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">Grafana</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin: 0 2px;">Loki</span></p>
-----------------------	--

## PROJECTS AND OPEN SOURCE CONTRIBUTION

### KNOWLEDGERELAY : AI-BASED KNOWLEDGE TRANSFER AGENT

2025

 [github.com/riyadomf/knowledgeRelay](https://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](https://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](https://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](https://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.