



MD. Rezaul Karim

Lead Software Engineer | Ruby on Rails | Spring Boot | AWS

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Full-stack Web Application Developer with about **6+ years** of experience in various SDLC phases such as requirements gathering, analysis, design, implementation, deploying, and testing Client/Server and Web applications. Experienced in developing Web applications using Ruby on Rails, Spring, HTML5, CSS3, JQuery, JavaScript and MySQL, PostgreSQL. Demonstrated ability to satisfy upper management through reliability, commitment, and problem resolution.

EXPERIENCE

★ Lead Software Engineer

RedDot Digital Limited (JANUARY 2024 - PRESENT)

- Experience in a high-impact role, actively contributing to a live project with over 1.5 crore users, including writing integration tests using RSpec and RSwag.

★ Senior Software Engineer

Nascenia Limited (JULY 2023 - JANUARY 2024)

- System design, Server management, and managing the team.

★ Software Engineer

Nascenia Limited (JANUARY 2021 - JUNE 2023)

- Implemented a feature-rich survey system with custom questionnaires, validations, skip logic, and Excel output for a project. end-to-end chat encryption system
- Managed server operations, and deployed secured RoR applications on AWS using various services (EC2, S3, RDS, Lambda).
- Communicating with clients, understanding requirements, and sometimes working as a team lead.

★ Junior Software Engineer

Nascenia Limited (MARCH 2019 - DECEMBER 2020)

- Full-stack web development expert in front-end (jQuery, SCSS, ReactJS) and back-end (Ruby on Rails), specializing in requirement analysis, DB design, deployment, and time estimation.

INTERESTS/HOBBIES



Competitive programming



Image processing



Artificial Intelligence



Singing



Inline Skating



Painting

EDUCATION

B.Sc. in Computer Science and Engineering

Khulna University of Engineering & Technology (KUET)

JANUARY 2015 - FEBRUARY 2019

CGPA: 3.42 out of 4.00

Higher Secondary School Certificate

Khulna Kamil Madrasah, Khulna

PASSING YEAR - 2014

GPA: 5.00 out of 5.00

TECHNICAL SKILLS/KNOWLEDGE

- Ruby, Java, PHP, Python, C++, JavaScript
- Ruby on Rails, Spring Boot, Laravel, JQuery
- React JS, CSS, SCSS
- MySQL, PgSQL
- Linux, Windows, Mac OS, Android
- Unity 3D
- AWS (EC2, S3, Lambda, etc), Heroku

ACHIEVEMENTS

- **1st position** - Hackathon for "Selection of a Firm for Artificial Intelligence (AI) Based National Digital Service Assistant Development"
- **2nd position** - Intra KUET programming contest – 2016 (Team- KUET_GOBET)
- **68th position** - NSU Cybernauts programming contest (Team- mrx_kuet)
- **Talent pool scholarship** - Alim (H.S.C)
Placed Divisional first from Madrasah Board.

RESEARCH EXPERIENCE

- **Bangla News Text Summarization using Natural Language Processing**
Undergraduate thesis where various types of Natural language Techniques are applied to summarize a news text.
- **Horizontal Vertical and SuperQueen Parity (HVSQ) Method for Soft Error Tolerance**
IEEE TENSYP, Paper ID: 1059

PROJECTS

- ★ **Emergency Balance Solution for leading Bangladeshi telecom company: Back-end - *Spring Boot***

Developed a high-performance **Emergency Balance Solution** for a leading Bangladeshi telecom company using **Java Spring Boot** with a **microservices architecture** capable of handling **1500 requests/sec**.

Notable developed features:

 - ❖ Dynamic USSD Menu Generation – Designed a configurable USSD menu system manageable from an admin portal.
 - ❖ Loan Eligibility & Provisioning Services – Implemented eligibility checks, loan product provisioning, and disbursement logic.
 - ❖ CBS Integration for Loan Processing – Developed seamless integration with CBS for real-time loan provisioning.
 - ❖ Cross-Platform Loan Availment – Enabled users to avail emergency loans via USSD, Android, and iOS apps.
 - ❖ Microservices Optimization – Ensured scalability and performance across 17 microservices, handling high request loads efficiently.
- ★ **A self-care app: Back-end - *Ruby on Rails***

This is the one-stop solution for all user service needs, with exciting new features that promote innovation and optimization.

Notable developed features:

 - ❖ Establishing the foundational structure and authoring robust integration tests for the APIs.
 - ❖ Played a pivotal role in enhancing accessibility and usability by generating Swagger documentation for streamlined API management.
- ★ **Bullseye Platform - School Management Software - *Ruby on Rails, VueJs***

BullsEye is A platform to help administrators evaluate teachers to help them be more effective, used in more than 140+ schools in the USA.

Notable developed features:

 - ❖ Developed a TODO list-like feature called “Next Step” which can be created, deleted, updated, checked, and unchecked according to the business logic.
 - ❖ Everything is done in TDD (Test Driven Development) style.
 - ❖ Refactored legacy code and updated the test cases according to new changes.
- ★ **VAT Management Software - *Ruby on Rails***

It is an NBR-approved VAT management software, based on the VAT Act 2012.

Notable developed features:

 - ❖ **Inventory management** with **VAT** amount calculated according to the product type.
 - ❖ Change database runtime according to **subdomains**.
 - ❖ Every day **automatic database backup** of all databases in the **Amazon S3 bucket** and then sync them with the client's local space periodically with a cron job.
 - ❖ 12 types of Mushak **report generation** in both HTML and PDF versions.
 - ❖ **Authentication** (gem: devise) and **Role management** (gem: CanCanCan).
 - ❖ Customize the **scaffold template (controller, model, view)** so that it automatically generates a compatible design.
 - ❖ **VMS integration** with data pull API pulls data from the client database and is applied to the software.

★ Recommendation system with survey and other features - *Ruby on Rails*

This recommendation system allows beneficiaries to select a problem & multiple causes, then recommend probable solutions & actions to execute to solve that problem.

Notable developed features:

- ❖ Database and system design of the project.
- ❖ Optimizing the performance to support more than 1K+ users simultaneously.
- ❖ Customizing **Sleek** admin template for this project.
- ❖ Developed a complete survey conducting feature. The main features are a fully **dynamic form builder** with more than **7 types of fields**, the user can add **skip logic** depending on previous field input, and **custom validation with the custom message** can be added.
- ❖ Versioning of the dynamic forms, export the form structure as JSON which can be imported into another survey later.
- ❖ Developed map integration and custom rendering over the map using both **Google Maps & OpenStreetMap**.
- ❖ Developed a modified end-to-end chat encryption system using **ActionCable, RSA, and AES**.
- ❖ Managing and optimizing the servers (AWS EC2) for the project.
- ❖ Developed **REST API using Grape** for mobile applications.

★ Process Digitization Project - *Ruby on Rails*

Notable developed features:

- ❖ Developed a custom form builder with **2 types of sections. 10 types of fields**. This can be used for generating their desired form structure and later can generate an input form, and after filling the form user can generate a PDF from the inputted response.
- ❖ The user and client can sign in the form response using a sign pad.
- ❖ Users can send the generated PDF to the client via DocuSign for signoff.

★ University website - *Ruby on Rails*

Notable developed features:

- ❖ Developed backend **CMS System** using Ruby on Rails.
- ❖ Customizing **Core-UI** admin panel template and bootstrap 4.
- ❖ Integrated front-end with the backend.

★ Chatbot admin panel - *Ruby on Rails*

This admin panel is used for modifying chatbot functionality such as Intent modification, initial properties, event details, training, etc. collaborating with **RASA** (Python-based open-source conversational AI).

Notable developed features:

- ❖ **Event details** (confidence value with intents, time, entities, etc.) from the chatbot database.
- ❖ Modifying the Intents file from the admin panel by reading/writing the text files.
- ❖ Implement the front-end to **rate the chatbot (star & comment)** then store it in the database.

★ Corona infected data acquisition - *Ruby on Rails*

This is a **data entry with a real-time visualization** project conducted with govt. to collect Corona (COVID-19) infected data from Civil Surgeons from the District, Upazilla, City Corporation, and Union levels.

Notable developed features:

- ❖ Develop a **nested form** for input **District, Upazilla, Unions, and City corporation** data per day and add a new place if needed.
- ❖ Visualize with **3 colors (red, green, and yellow)** compared with the previous day's entry in real-time with a **dynamic threshold** value.

★ Corona zones for intensive local containment - *React JS, Express JS*

This is a **real-time visualization** tool for a corona-infected person's position (get from NTMC server 4 times a day) developed with **React JS (front-end)** and **Express JS (back-end)**.

Notable developed features:

- ❖ Visualize the Infected person's position on the **Bangladesh Map (OpenStreetMap)** and color the District, Upazilla, and Union level with three-zone colors (red, green, yellow) based on the infected person's density within an area.
- ❖ Add custom map layers with **leaflet JS**.
- ❖ Add UI-level thresholds and other tuning options for coloring zones.

★ PlaneGame: - *OpenGL, C++*

It is a 3D plane game that can be played on a PC with the help of a keyboard.

See project: [video](#) [source code](#)