

# Md. Rifat Hasan Jihan

Code Craftsman

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## Summary

Self-taught and highly motivated Mechanical Engineering graduate from KUET with a strong passion for software development. Developed solid programming fundamentals and a consistent track record of solving complex problems independently. Proven ability to continuously learn new technologies, adapt quickly, and tackle complex challenges.

## Problem Solving

🔗 /RHJihan/problem-solving

- **Codeforces:** Handle: [RHJihan](#), Max Rating: 1159, 300~ problems solved
- **HackerRank:** Username: [rhjihan](#), Problem Solving: *Gold level*, C++: *Silver level*
- **CodeChef:** Username: [rhjihan](#), Rating: 1226
- **LeetCode:** Username: [RHJihan](#), 160~ problems solved
- **UVa:** Username: [RHJihan](#), 110~ problems solved
- **CodeChef:** Username: [rhjihan](#), Rating: 1226
- **Other Platforms:** Occasionally practiced on [AtCoder](#), [SPOJ](#), [LightOJ](#), [CSES](#)
- **Cumulative Experience:** Solved 800+ algorithmic problems across multiple online judges

## Skills

<b>Programming Languages</b>	<b>Proficient:</b> C, C++, Java <b>Worked with:</b> SQL, Python, Kotlin, JavaScript, Bash
<b>Core CS Skills</b>	Data Structures, Algorithms, Graph Theory, Dynamic Programming, Number Theory, Problem Solving
<b>Framework</b>	Spring, Spring Boot, Hibernate
<b>Database</b>	PostgreSQL, MySQL
<b>Web Technologies</b>	HTML, CSS, REST API, Thymeleaf
<b>Others Technologies</b>	JPA, Maven, Gradle, MVC, Git, GNU/Linux, LaTeX
<b>CAD &amp; Simulation</b>	Autodesk AutoCAD, SOLIDWORKS, Ansys, KeyShot
<b>Languages</b>	English (Fluent), Bengali (Native)

## Projects

### MonoMart

*E-commerce Backend API*

🔗 /RHJihan/MonoMart

*Java, Spring Boot, Spring Framework, PostgreSQL, JPA/Hibernate, JWT, Swagger, Maven*

- Designed and implemented user authentication, role-based access control, product catalog, cart, and order workflows
- Engineered secure API endpoints with Spring Boot, Java, PostgreSQL, Liquibase, and Spring Security
- Optimized data handling with JPA, MapStruct, validation layers, and centralized exception management
- Integrated Swagger/OpenAPI docs, and added health monitoring endpoints

### SecureFlow

*User Management System Demonstration*

🔗 /RHJihan/SecureFlow

*Java, Spring Boot, Spring Framework, PostgreSQL, JPA/Hibernate, Thymeleaf, Maven*

- Built a responsive web interface using Thymeleaf templates integrated with Spring Security for seamless authentication and role-based access control.
- Implemented robust security with Spring Security, BCrypt password hashing, JDBC authentication, session management.
- Designed and managed PostgreSQL database schema with JPA/Hibernate, and transactional data handling for users, roles, and permissions.
- Integrated Spring Boot Actuator for health monitoring, application metrics, and production-level observability.

### Solarized Facebook

*Solarized Color Scheme for Facebook (Browser Extension)*

🔗 /RHJihan/Solarized-Facebook

*JavaScript, CSS, Browser Extension APIs*

- Created a browser extension to apply a Solarized dark color scheme to Facebook.
- Enhanced user experience through consistent UI theming without affecting site functionality.

## FontScope

 [rhjihian.github.io/font-scope](https://github.com/rhjihian.github.io/font-scope)

Web-based Font Preview and Comparison Tool

JavaScript, CSS, HTML

- Built a web tool to preview and compare multiple fonts side-by-side in real time.
- Designed a responsive and lightweight interface for designers and developers.

## Open-Source Contributions

### HeliBoard

3.6k Stars

 /Helium314/HeliBoard

Java, Kotlin, Android SDK

- Contributed to HeliBoard, a customizable and privacy-conscious open-source keyboard, with a total of 29 merged pull requests.
- Implemented bug fixes, introduced new features, and enhanced Bengali language support to improve usability and accessibility.

### Other Open-source Contributions

- Contributed Bengali language support to multiple open-source keyboard projects, including [FlorishBoard](#), [FUTO Keyboard](#), and [Simple Keyboard](#).
- Provided localization support for [KeePassXC](#), contributing to its multilingual interface and improving usability for non-English users.

## Work Experience

### 10 Minute School

Remote

Infographic Designer

Jan. 2023 – Dec. 2023

- Collaborated with content writers to design high-quality academic vector graphics, diagrams, and charts that visually simplified complex concepts.
- Delivered content on schedule with consistent style across projects, enhancing educational materials through impactful visual storytelling.

## Education

### Khulna University of Engineering & Technology

Khulna

Bachelor of Science in Mechanical Engineering

2019 – 2024

- **Thesis:** Simulation of Autonomous Vehicle using Neural Network  
Developed a convolutional neural network based simulation model for testing the behavior of autonomous vehicles in complex traffic scenarios.

## Extracurricular Activity

### Team Kilo Flight

Aerodynamics Expert & Business Strategy Member

Formula Student Racing Team of KUET

- Designed and simulated the car's airfoil to improve aerodynamic efficiency and enhance vehicle stability.
- Managed sponsor outreach and corporate communications, establishing partnerships and maintaining coordination between the business and technical teams.

### Other Volunteering Work

Student Assistant of ICMIEE 2022

International Conference on Mechanical, Industrial & Energy Engineering

- Coordinated conference logistics and provided operational support, ensuring seamless event execution.
- Designed and edited the official conference magazine, delivering high-quality, publication-ready content.

Organizer of IGNITION 2023

National Mechanical Engineering Festival at KUET

- Led the Soccer Bot, LFR, CAD Contest sections, coordinating activities, demonstrations, and team participation.
- Directed the design, editing, and publication of the festival's official magazine.
- Produced and managed digital promotional content across social media and newsletters, driving audience engagement.
- Collaborated with a team of organizers to ensure cohesive messaging and professional presentation across all festival materials.