



# Saswata Mondal

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## Summary

Fourth-year CSE student with expertise in full-stack development, AI integration, and competitive programming. Skilled in Java, Spring Boot, PostgreSQL, React.js, Python, REST APIs, JWT security, CI/CD, and Gemini API. Solved 400+ LeetCode problems (Rating 1672, Top 15.22%). Certified in Java, Databases, C, and React.js. Hackathon experience with leadership roles in academics and sports.

## Education

**Institute of Engineering & Management, Kolkata**, B.Tech in Computer Science 2022-2026

- SGPA: 9.11 (Weighted till 3<sup>rd</sup> Year)

**The Assembly of God Church School, Haldia** 2009-2022

- ICSE (Class 10), 2020: 92.4%
- ISC (Class 12), 2022: 94.75%

## Projects

### SyntaxHut – Competitive Programming Solutions Platform

*React, Java, Spring Boot, PostgreSQL, Node.js, Python, GitHub Actions, Cloudflare, Vercel*

- Designed and developed a robust backend managing **1500+ coding problems** with multi-language solutions, significantly improving user access and enhancing search efficiency by 20%.
- Engineered automated data pipelines using **GitHub Actions and Python** for ingestion, enrichment, and repository synchronization, **reducing manual effort by 70%** and ensuring data consistency.
- Integrated **AI-based content enrichment (Gemini API)** to auto-generate explanations, metadata, and real-world problem contexts.
- Deployed on Vercel with Cloudflare CDN, optimizing caching, performance, and SEO while managing DNS, SSL/TLS, and CI/CD for maintainability.
- Monitored traffic: **3.4k unique visitors, 41.67k requests, 12GB data served** in 30 days, with active bot and threat management.

### Library Management System

*Spring Boot, Spring Security (JWT), PostgreSQL, JPA/Hibernate, JUnit, Mockito*

- Developed a **secure backend system** with **role-based access control** (Librarian/User) **using stateless JWT authentication**.
- Designed and implemented **RESTful APIs** for user registration, login, book management and member workflows.
- Built **borrowing/return processes** with overdue tracking, fine calculation, recommendations, and audit trails improving operational efficiency by 25%.
- Ensured **robust error handling, input validation, and comprehensive unit/integration testing** with JUnit, Mockito, and Postman, leading to a 15% reduction in reported bugs.
- Optimized database operations using **Spring Data JPA/Hibernate** for efficiency, scalability, and maintainability.

### AI Career Companion – Proctored Mock Interview Platform

*Python, Streamlit, Gemini API, DOCX, Audio Processing*

- Developed an AI-powered platform to automate job hunting tasks, including resume/cover letter generation, cheat sheets, and Proctored mock interviews.
- Implemented proctoring workflows with webcam capture, tab-switch detection, and detailed session logging.
- Utilized Gemini API for AI-based content enrichment to generate personalized interview questions, coding challenges, and study materials.
- Designed a modular, session-aware Streamlit UI with secure file and audio processing capabilities.

## Technologies

Programming & Frameworks: Python, Core Java, C, Spring Boot, React.js, JavaScript, HTML, CSS

Databases & ORM: MySQL, PostgreSQL, JPA/Hibernate

Testing & QA: JUnit, Mockito, Postman

Tools & Platforms: Git, GitHub, RESTful APIs, CI/CD, Cloudflare, Vercel, Gemini API

## Awards & Achievements

- Qualified SIH Intra-College level and participated in many Hackathons like diversion2k25, LTI Github TechDrill contest
- Solved 400+ problems on Leetcode; **LeetCode rating: 1672**, Top 15.22% globally
- ISC School Topper & House Captain 2021–2022
- Top 5% performer & Silver Certification in NPTEL
- Winner & Organizer – School & College Table Tennis Tournaments

## Certifications

- NPTEL: Programming in Java, Database Management Systems, Intro to C, Problem Solving in C, Python in Data science
- IBM Java Developer Professional Certificate – Coursera
- React Basics – Coursera