Ritesh Saha

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About

Proficient in building full stack websites, designing databases & APIs, enjoys competitive programming and learning about new data structures and algorithms.

Profile

- [Github](#)
- [Linkedin](#)
- [Leetcode](#)
- [Portfolio](#)

Experience

Junior Full Stack Developer

EnableCap • Kolkata, West Bengal
06/2022 - 06/2023

- Developed and implemented the Loan Management System (LMS) and Loan Origination System (LOS) projects from scratch.
- Designed and implemented the REST framework for the LMS, responsible for data uploading/manipulating, loan lifecycle management, credit report generation (CIBIL and Equifax), and loan analytics, generating loan performance reports, key fact statements, statement of accounts, and sanction letters.
- Incorporated a user/role management system into the LMS, ensuring secure access and streamlined workflows.
- Collaborated with other companies for co-lending purposes, providing them with APIs to integrate with our LMS.
- Collaborated closely with the financial team to understand business requirements and automated a significant portion of the business processes.
- Built the user interface (UI) of the LMS using HTML, CSS, and JavaScript, leveraging technologies such as DataTables, Alertify, Chart.js, and SweetAlerts for enhanced functionality.
- Utilized Celery to create efficient background tasks for computing loan metrics, such as overdue, outstanding, XIRR, IRR, days past due, interest margin, etc.

Key accomplishments:

- Designed and implemented the entire backend and REST API of the LMS, including the database. This involved designing and implementing the data models, writing the code for the REST APIs, and configuring the database. The REST APIs handle data uploading/manipulating, loan lifecycle management, credit report generation (CIBIL and Equifax), and loan analytics.
- Implemented server-side processing of DataTables, including essential features such as pagination, universal search, individual search, sorting columns, exporting to xlsx, csv and pdf, and the powerful search builder feature. The search builder feature was implemented using depth-first search, and it is now used extensively throughout the project for easy filtering of data.
- Optimized the loan metrics calculation process, reducing the time to calculate loan metrics for more then 10,000 to just 5 minutes. This significantly accelerated report generation, allowing the operations team to generate CIBIL reports of an entire year in under 1 hour, which would have otherwise taken weeks if not days.

Skills

Proficient in data structures and algorithms, working with and designing relational databases, and building user interfaces.

Backend Development: *Python, C, C++, Java*

- **Backend Frameworks & Libraries:** *Django, Flask, Celery, Django Rest Framework, Knox authentication, Numpy, Pandas, Numba, Plotly*

Database: *MySQL, SQLite3*

- **Database Skills:** *Temporary Relationships, Relational Algebra, Normalization, Database Design, Query Optimizations*

Frontend: *HTML, CSS, Javascript, Ajax*

- **Frontend Libraries:** *DataTables, Chart.js, SweetAlerts, Alertify*

Server and Deployment:
- **Web Servers:** *Nginx*
- **Application Servers:** *Gunicorn*
- **Caching:** *Redis*
- **Operating Systems:** *Linux*
- **Cloud Services:** *Amazon Web Services (AWS), E2ENetworks*

Certifications

- *Algorithms for Searching, Sorting, and Indexing ([Coursera](#))*
- *Trees and Graphs: Basics ([Coursera](#))*
- *Dynamic Programming, Greedy Algorithms ([Coursera](#))*
- *Data Science Foundations: Data Structures and Algorithms ([Coursera](#))*
- *Mathematics for Machine Learning: Linear Algebra ([Coursera](#))*
- *Mathematics for Machine Learning: Multivariate Calculus ([Coursera](#))*
- *Programming in Java ([NPTEL](#))*
- *Programming, Data Structures And Algorithms Using Python ([NPTEL](#))*
- *Data Structures and Algorithms: Deep Dive Using Java ([Udemy](#))*
- *Problem Solving (Intermediate) ([HackerRank](#))*
- *Problem Solving (Basic) ([HackerRank](#))*
- *SQL (Advanced) ([HackerRank](#))*
- *SQL (Intermediate) ([HackerRank](#))*
- *SQL (Basic) ([HackerRank](#))*
- *Python (Basic) ([HackerRank](#))*

Personal Projects

Trading/Portfolio management web app ([Demo](#) , [Code](#)):

- *A full stack web application built with flask, sqlite3, ajax, plotly and yahoo finance. Allows users to quote various stocks and manage their portfolio. This web app also estimates future trends of a stock. For more info view my portfolio. (email: riteshsaha214@gmail.com, password: 123456. Use this credentials for a more detailed view)*

Blogging Web Application ([Demo](#), [Code](#)):

- *A full stack web application built with flask. Allows users to write and view blogs. The main objective of this project was to improve my understanding of the flask framework. To view code and demo check out my portfolio.*

Data Structures and Algorithms template library ([Code](#)):

- *In this project I try to create my own template library of classical data structures and algorithms. Written entirely in c++, the main objective of this project is to get a deep understanding of data structures and algorithms and improve my problem solving skills. This project can be viewed in my github.*

Trees and Graphs ([Code](#)):

- *Exploring various tree and graph algorithms and their applications. Written in python on jupyter notebook.*

Responsive web pages ([Demos](), [Codes]()):

- *A collection of responsive web pages written in pure html, css and javascript. Demo and code can be found on my portfolio.*

Numerical analysis ([Code]()):

- *Implementation of various numerical methods for finding roots and interpolation. In this project I use C for heavy computations and python for I/O and threading. Python's CDLL module allowed me to use precompiled C code in python.*

Stock-Trend-Prediction ([Code]()):

- *A minor project where I use yfinance and TensorFlow to predict stock trends.*

Spell Checker ([Code]()):
- Developed a spell checker by implementing a trie data structure in the C programming language.

Education

Bachelor Of Computer Application: B.C.A(Hons)

University of North Bengal • Siliguri, West Bengal
07/2022
CGPA: 9.124

Relevant Courses: *Discrete Mathematics, Graph Theory, Probability Theory, Linear Algebra, Automata Theory, Data Structures and Algorithms, Design and analysis of algorithms, Digital Electronics. Computer System Architecture, Data Science, DBMS*

I.S.C

Emmanuel English School • Malda, West Bengal
05/2019
Grade: 85.4%

Subjects: *Physics, Chemistry, Biology, Computer Science, English, Hindi*

I.C.S.E

Emmanuel English School • Malda, West Bengal
05/2017
Grade: 88.8%

Subjects: *Mathematics, Physics, Chemistry. Biology, Computer Applications, English, Hindi*

Extracurricular activities

National Cadet Corps

Achievements:

- *'A' certificate*
- *Participated in Combined Annual Training Camps*

International / National Science Olympiads

Achievements:

- *State rank 83 in iTHO 2016 (Silverzone)*
- *State rank 140 in iTHO 2015 (Silverzone)*
- *City rank 26 in 19th NSO (Science Olympiad Foundation)*

Kickboxing

Achievements:
- *2nd West Bengal State Inter-School Kickboxing Championship Jan 2016 (Bronze medal)*
- *District Inter-School Kickboxing Championship Oct 2016 (Bronze medal)*

Languages

English: *Full Professional Proficiency*

Hindi*: Native Language Proficiency*

Interested in

Competitive Programming, Data Science, Gaming, Calisthenics