RANAJIT DAS

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KOLKATA, INDIA

Education

HOOGHLY ENGINEERING AND TECHNOLOGY COLLEGE (HETC), India | 2021 - Expected Graduation: 2025

- B. Tech in Computer Science and Engineering | CGPA: **8.56** (Up to 6th semester)

SARSUNA BOYS HIGH SCHOOL (SHS), India

- WBBSE (Class X) Aggregate: 80% | 2019
- WBHSE (Class XII) Aggregate: 81% | 2021

Skills

Languages: Java, C, JavaScript, HTML5, CSS3, Python, TypeScript
Databases: MongoDB, SQL
Frameworks/Libraries: React JS, Tailwind CSS, Next JS, Node JS, Express JS, EJS
Platforms: Windows, Linux
Version Control: Git, GitHub

Projects

1. SNIP-X: A CODE SNIPPET SHARING PLATFORM | 🔗

- **Full-stack CRUD application** that allows users to create, edit, and copy code snippets. Efficient categorization with tags.
- **Google authentication enables secure sign-in/sign-out**, allowing users to **manage their own profile and view other users' profiles**, exploring their shared snippets.
- Advanced search functionality lets users **efficiently search for specific users or tags**, **with clickable tags** providing instant filtering of related posts.
- Developed an interactive, **randomized feed that displays an average of 20 user posts,** refreshing on each page load to maintain engaging and updated content.
- **TECH STACK –** React, Next JS, Mongo DB, Tailwind CSS

2. TEXT COMPRESSOR USING HUFFMAN CODING | Demo

- Achieved **up to a 50% reduction in data size** using Huffman coding, leveraging data structures like min-heaps and hash maps to encode characters with fewer bits.
- **Optimized performance and memory efficiency** through object-oriented programming principles in Java.
- Compressed data by **encoding each character in fewer than 8 bits**, compared to the **standard 16-bit representation.**
- **TECH STACK –** Java, Java GUI

3. SORTING ALGORITHM VISUALIZER | 🔗

- Leveraged advanced JavaScript and DOM manipulation to build an intuitive sorting algorithm visualizer, **delivering clear and responsive demonstrations of various sorting techniques.**
- Implemented and animated **5+ sorting algorithms**, aiding in educational demonstrations.
- Implemented features that allow users to adjust **speed across 5 levels** and set the **maximum array size to 60**, facilitating real-time comparisons of time complexity and algorithm performance to enhance the learning experience.
- **TECH STACK –** HTML5, CSS3, Vanilla JavaScript

Academic and Extracurricular Achievements

- Certified in Data Structures and Algorithms through completion of three Stanford University Coursera courses.
- Led a group project in my third year to build a Java-based file compressor and decompressor application and math expression recognizer and solver using machine learning.
- Solved over 140 problems on LeetCode.