

SAYAN BISWAS

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Objective

Motivated and detail-oriented M.Tech Computer Science and Engineering student at MAKAUT, with a strong foundation in full-stack development, data structures, and algorithmic problem-solving. Proficient in building scalable web applications and implementing optimization algorithms. Developed a Repository Tabu Search (RTS) algorithm in Python to solve the Vehicle Routing Problem (VRP), enhancing performance over classical Tabu Search by incorporating adaptive memory and randomized neighbor selection. Actively seeking opportunities to contribute to innovative projects and further grow as a software developer in a dynamic, technology-driven environment.

Education

M.Tech In Information Technology	CGPA : 9.40 /10	2025-2027
B.tech In Computer Science	CGPA : 8.44/10	2021-2025
12 th Class	Percentage : 91%	2020
10 th Class	Percentage : 86%	2018

Relevant Coursework

• Operating System • Database Management • Data Structure & Algorithms • Computer Network

Academic Projects

Tabu Search : Application to Benchmark Functions and Vehicle Routing Problem :

- Implemented Tabu Search metaheuristic for solving benchmark optimization functions such as Rastrigin, Rosenbrock, and Sphere, analyzing convergence and performance metrics.
- Applied Tabu Search to the Vehicle Routing Problem (VRP), designing custom neighborhood structures and adaptive memory strategies to optimize route costs.

Vehicle Routing Problem – Repository Tabu Search Approach :

- Upgraded to a Repository Tabu Search (RTS) by integrating adaptive memory structures and randomized tie-breaking for optimal neighbors.
- Enhanced algorithm robustness, solution quality, and convergence by avoiding local optima and improving search diversity.
- Achieved superior results across 36 benchmark scenarios with varying fleet sizes and capacities, outperforming the baseline TS model.

Projects

Student Record Management System | Created a responsive and print-enabled Student Record Management System using HTML, CSS, and JavaScript with persistent data storage via localStorage. The system supports CRUD operations (Add, Edit, Delete) for student records with a user-friendly interface and includes a print feature for generating detailed student lists.

Weather App | Developed a responsive Weather App using HTML, CSS, and JavaScript that fetches real-time weather data from the OpenWeatherMap API based on user input. The app displays temperature, humidity, wind speed, and weather icons dynamically, and includes error handling for invalid city names.

Technical Skills

Programming Languages : C, C++ ,Java, Python, HTML, CSS , JavaScript

Frameworks/Libraries : Bootstrap, Tailwind CSS

Databases : MySQL

Tools & IDEs Skills : MS Word, MS Excel, VS Code, Emacs

Achievements

Languages

- Solved 150+ DSA problems on LeetCode
 - Solved 150+ problems on GFG & TakeUForward
- English, Hindi , Bengali