

Parthik Mangal

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Skills

Languages: C/C++, Python, JavaScript, SQL

Data Structure and Algorithms

Technologies & Tools: MongoDB, ReactJS, NodeJS, ExpressJS, Postman, Git, Render

Education

Graphic Era Hill University, Dehradun

B.Tech in Computer Science and Engineering

August 2022 – June 2026

CGPA: 8.04/10 (SGPA: 9.11/10)

Relevant Coursework: Object Oriented Programming, Databases, Discrete Maths, Data Structures and Algorithms, Operating Systems, Computer Networks, Machine Learning, Advanced Data Structures and Algorithms, Cryptography

Work Experience

Garvish Marketing Pvt. Ltd., Dehradun

July 2025 – September 2025

Frontend Developer

- Engineered 2 complete, high-performance frontend applications using ReactJS, ensuring 100 percentage adherence to client design specifications.
- Refined and optimized existing 3 MongoDB schemas and backend logic, streamlining data flow for full-stack features using Node.js and Express.
- Crafted 15+ reusable, responsive UI components in ReactJS, which improved cross-device compatibility and enhanced the overall user experience

Project Work

• Federated Learning for Smart Healthcare (2026)

GitHub: <https://github.com/Parthik10/Federated-learning-for-healthcare>

- Pioneered a privacy-centric framework utilizing the Flower framework and TensorFlow to enable decentralized training across 2 simulated clients without compromising raw data.
- Implemented the Federated Averaging (FedAvg) algorithm, successfully coordinating model aggregation across 5+ rounds of decentralized training to ensure global model stability.
- Benchmarked system performance, demonstrating that the privacy-preserving model maintained 95 percentage accuracy compared to centralized training approaches

• Reporting System (2025)

Live: <https://reporting-portal1.netlify.app/>

GitHub: <https://github.com/Parthik10/Reporting-System>

- Architected a full-stack reporting platform using the MERN stack (MongoDB, Express, React, Node.js), integrating 3+ core modules for incident reporting, user authentication, and administrative oversight.
- Engineered an interactive geospatial dashboard utilizing Mapbox API, enabling users to visualize and report road hazards across a real-time map interface with 100 percentage location accuracy.
- Implemented a secure, multi-level authentication system using JWT (JSON Web Tokens) to manage private user profiles and ensure data integrity for over 10+ distinct reporting categories.

• SmartLang — Based on Compiler Concepts (2025)

GitHub (Server): <https://github.com/Parthik10/smartLang-server>

GitHub (Frontend): <https://github.com/Parthik10/smartLang>

- Developed an AI-powered translation and grammar correction engine by integrating the Gemini AI API, enabling high-context English-to-Spanish conversions.
- Optimized linguistic accuracy by mapping a custom dataset of 1,000+ words and rules in JSON, utilizing Python models to perform real-time grammar validation and error detection.

Achievements

- Competitive Programming:** 1000+ DSA problems solved on *LeetCode*, *Codeforces*, *CodeChef*..
- Knight on LeetCode** | Max Rating: **1883** | Best Global Rank: **489**
- National-Level Hackathon:** Selected for the final round from more than 1500+ registered teams and competed in the Graph-E-Thon Hackathon at Graphic Era University, Dehradun.