Prashant Singh

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Summary

Full-stack developer with strong foundations in data structures, algorithms, backend development, and web architecture. Experienced in building full-stack applications, REST APIs, authentication systems, and database-driven applications. Solved 500+ DSA problems with a focus on efficient and maintainable code.

Education

Graphic Era Hill University — Dehradun, India
Bachelor of Technology in Computer Engineering; GPA: 7.2/10 — Aug 2023 – Present

Preet Public Sr. Sec. School — Delhi, India
CBSE Class XII — 2023

Preet Public Sr. Sec. School — Delhi, India
CBSE Class X — 2021

Technical Skills

Languages: Java, C++, Python, JavaScript, SQL
Frameworks & Libraries: React, Next.js, Node.js, Express.js, Tailwind CSS
Databases: MongoDB, PostgreSQL, MySQL, Firebase
AI Technologies: Vapi AI, Google Gemini, PyTorch
Cloud & Deployment: Railway, MongoDB Atlas, Firebase
Tools: Git, GitHub, VS Code, Postman
Core CS: Data Structures & Algorithms, OOP, DBMS, Operating Systems

Projects

TripNest – Scalable Accommodation Platform — Live Demo — GitHub
Node.js, Express.js, MongoDB, EJS, Mapbox

- Built a full-stack accommodation platform with user authentication, property listings, reviews, and booking workflows.
- Implemented CRUD operations, schema validation using Joi and Mongoose, and authorization for protected listing actions.
- Developed RESTful APIs and integrated Mapbox for location-based property discovery.
- Deployed the application on Railway with MongoDB Atlas for cloud hosting and database management.

Prepwise – AI-Powered Interview Preparation Platform — GitHub
Next.js, React, Tailwind CSS, Firebase, Vapi AI, Google Gemini

- Developed an AI-powered interview preparation platform for practicing job-specific mock interviews through voice interactions.
- Integrated Vapi AI voice agents and Google Gemini to generate interview questions and conduct interactive interview sessions.
- Implemented Firebase authentication and data storage to manage user accounts, interview sessions, and interview history.
- Built an interactive dashboard with interview transcripts and AI-generated feedback to help users evaluate their performance.

ML-Based Memory Management using Deep Reinforcement Learning — GitHub
Python, PyTorch, DQN, Streamlit, Matplotlib

- Developed a Deep Q-Network (DQN) agent for adaptive page replacement and comparison with traditional FIFO and LRU algorithms.
- Simulated virtual memory operations, including page requests, memory frames, page faults, and page hits.
- Trained a PyTorch DQN agent using experience replay and epsilon-greedy exploration, recording 34.9 average and 28 minimum page faults per episode during experiments.
- Created a Streamlit dashboard to visualize training metrics and memory performance, achieving a 30.2% average page hit ratio across 50 requests per episode.

Achievements

- Solved 500+ Data Structures and Algorithms problems on LeetCode. **LeetCode Profile**
- Achieved a **1521 contest rating** on LeetCode. **Contest Profile**
- Solved 150+ curated coding problems from the NeetCode roadmap.
- Secured Rank 1495 in Tricolour Code Fest.

Certifications

- **Full Stack Web Development** – Coursera
- **Big Data Computing** – NPTEL