

Hema Taneja

Career Objective

To leverage expertise in competitive programming, full-stack development (including Web3 and AI/ML), and build innovative, high-impact solutions.

Seeking a challenging role where I can contribute to cutting-edge technologies and continuously expand my skillset in a collaborative environment.

Personal Info

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College: Dr. D.Y. Patil Institute of Technology

Achievements

****Achievement 1:****

Developed a novel AI-powered personalized learning platform for high school students, leveraging a hybrid recommender system (combining content-based and collaborative filtering) to curate customized learning paths. This project demonstrated proficiency in machine learning (specifically, building and deploying a scalable recommender system), frontend development (creating an intuitive and engaging user interface using React), backend development (building robust REST APIs using Node.js and Express), and database management (utilizing PostgreSQL for efficient data storage and retrieval). The platform achieved a 25% improvement in student engagement metrics compared to traditional learning methods in a pilot study with 50 students, as measured by time spent on the platform and completion of learning modules. The project also placed 2nd in the annual College Hackathon, demonstrating its innovative and practical nature.

****Achievement 2:****

Designed and implemented a decentralized application (dApp) for secure and transparent academic record management on the Ethereum blockchain, utilizing Solidity for smart contract development and IPFS for decentralized storage of

student transcripts and certificates. This project showcased expertise in web3 technologies, including smart contract development, blockchain security, and decentralized storage. The frontend was built with React and integrated seamlessly with the backend, enabling users to securely access and verify their academic credentials. The dApp incorporated robust cryptographic techniques to ensure data integrity and user privacy, successfully addressing the issue of record tampering and verification difficulties in traditional academic systems. The project earned a "Best in Show" award at the regional Blockchain Technology Conference and has been subsequently refined for possible open-source release.

Skills

* **Competitive Programming Proficiency (Algorithms & Data Structures):** Demonstrated ability to solve complex algorithmic problems efficiently using languages like C++, Python, or Java. Includes strong understanding of data structures (trees, graphs, heaps) and algorithm design paradigms (dynamic programming, greedy algorithms, divide and conquer). Evidence: High rankings on platforms like Codeforces, LeetCode, or HackerRank.

* **Frontend Web Development Mastery (React/Angular/Vue.js):** Expertise in building responsive and interactive user interfaces using modern JavaScript frameworks. Includes proficiency in HTML, CSS, and JavaScript, as well as experience with state management, testing, and deployment. Evidence: Portfolio of compelling web applications, contributions to open-source projects, or successful completion of relevant projects.

* **Backend Development Expertise (Node.js/Python/Go):** Skill in designing, building, and deploying robust and scalable server-side applications. Includes experience with databases (SQL and NoSQL), RESTful APIs, and cloud platforms (AWS, Google Cloud, Azure). Evidence: Experience building and deploying backend services, contributing to API development, and demonstrating understanding of database design and optimization.

* **Web3 Development (Solidity/Ethereum):** Understanding of blockchain technology and decentralized applications (dApps). Includes experience with Solidity (smart contract development), Ethereum, and related tools and frameworks. Evidence: Deployed smart contracts on a testnet or mainnet, contributed to decentralized projects, or demonstrated understanding of blockchain concepts.

* **AI/ML Application (Python/TensorFlow/PyTorch):** Ability to apply machine learning techniques to solve real-world problems. Includes familiarity with Python libraries (scikit-learn, TensorFlow, PyTorch), model training, evaluation, and deployment. Evidence: Completed AI/ML projects involving data analysis, model building, and evaluation; demonstrated understanding of different ML algorithms and their applications.