Aman Vishwakarma

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Objective

Motivated Computer Science undergraduate with a strong foundation in Data Structures, full stack web development, and system design. I enjoy building scalable and efficient web applications that solve real-world problems and improve user experiences. Eager to apply my skills in both frontend and backend development, continuously learn modern technologies, and contribute to meaningful projects while growing as a Full Stack Developer and Software Engineer.

Education

Noida Institute of Engineering and Technology — Greater Noida, India
B.Tech in Computer Science and Engineering; CGPA: 7.8 — *Sept 2023 – June 2027 (Expected)*

Technical Skills

Programming Languages: C++, Python, JavaScript, SQL
Core Computer Science: Data Structures and Algorithms, Object-Oriented Programming (OOP), DBMS, Computer Networks
Backend Development: Node.js, Express.js, RESTful API Design, Middleware Architecture
Databases & Storage: MySQL, MongoDB, Redis (Caching, Indexing, Query Optimization)
Systems Concepts: Distributed Systems, Concurrency, Multi-threading, Scalability, System Design, CAP Theorem, Rate Limiting
Artificial Intelligence: Agentic AI Systems, Large Language Models (LLMs), Prompt Engineering, Retrieval-Augmented Generation (RAG)
Competitive Programming: Solved 100+ LeetCode problems across Arrays, Strings, LinkedList, Trees, Stack
Tools: Git, GitHub, VS Code

Projects

Distributed URL Shortener with Analytics and Rate Limiting

- Architected a distributed URL shortening service using Node.js, MongoDB, and Redis.
- Implemented Base62 encoding for unique short URLs and optimized concurrent request handling.
- Designed RESTful APIs for URL creation, redirection, expiration, and analytics tracking.
- Integrated Redis caching layer to reduce database load and improve performance.
- Implemented rate limiting middleware to prevent abuse and improve reliability.

Disaster Preparedness and Emergency Response System (SIH Project)

- Developed a disaster preparedness platform during Smart India Hackathon to help citizens prepare for natural disasters.
- Designed modules for disaster alerts, safety guidelines, and emergency resource information.
- Implemented structured data handling and quick information retrieval for emergency situations.
- Focused on accessibility and user-friendly design for fast response during crises.
- Collaborated with a team to design and prototype the solution during the internal SIH round.

Retirement Corpus & Pension Forecasting Web Application

- Developed a full-stack financial forecasting application using MERN stack for retirement corpus estimation.
- Implemented inflation-adjusted compound growth algorithms for financial projections.
- Built secure backend APIs with structured validation and modular architecture.

E-Governance Complaint Management System

- Developed a complaint management web application using MERN stack with user and admin roles.
- Implemented authentication, complaint tracking, and real-time status updates.
- Created an admin dashboard to manage and resolve complaints efficiently.
- Designed responsive UI to enhance user experience and accessibility.

Hackathons & Achievements

Bhartiy Antariksha Hackathon (ISRO): Participated in the national-level space technology hackathon organized by ISRO and collaborated with a team of 4 members to build innovative technical solutions.

IIT Roorkee E-Summit 2026: National Finalist in software solution competition; recognized for innovation and technical design.

Smart India Hackathon 2025: Selected in the **Internal College Hackathon** for developing innovative software solutions demonstrating teamwork, rapid prototyping, and strong problem-solving skills.

Amazon Web Services (AWS) Solutions Architecture Job Simulation: Completed practical simulation focused on designing scalable and secure cloud architectures using core AWS services.