Umesh Kumar Yadav

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EDUCATION

- **Goel Institute of Technology and Management** — Lucknow, Uttar Pradesh, India
  B.Tech in Information Technology, CGPA: 7.6 — *Oct 2021 – July 2025 Completed*

EXPERIENCE

- **Software Development Engineer Intern** — Jan 2025 – July 2025
  GoRoots (Remote)
  - Developed responsive and reusable UI components using React and TypeScript, enhancing user engagement and reducing load time by 30%.
  - Engineered scalable backend APIs with Node.js and MongoDB to handle bookings, appointments, and reviews, cutting response latency by 25%.
  - Incorporated BigCalendar in the admin dashboard for real-time appointment tracking and management, improving scheduling efficiency by 35%.
  - Constructed a complete booking workflow with robust validation, availability checks, and appointment logic, handling 500+ bookings/week with 99.9% accuracy.
  - Rolled out a review module with secure input handling and protected routes to gather user feedback effectively, increasing review submissions by 40%.

PROJECTS

- **3d-mvs-webapp: 3D Model Viewer and Sharing Platform**: Designed an interactive web interface for 3D model visualization and sharing. Tech: React.js, Three.js, Node.js, MongoDB, Tailwind CSS. Link
  - **3D Rendering**: Leveraged Three.js to provide model rotation, lighting, and texture features in real-time.
  - **Model Upload & Storage**: Facilitated model uploads (.glb, .gltf) with metadata in MongoDB; ensured secure access.
  - **Sharing Mechanism**: Enabled sharing through unique public/private links with embedded viewer access.
  - **Performance Optimization**: Minimized latency with asset compression and component lazy loading.
  - **Responsive UI**: Delivered seamless cross-device experience using Tailwind CSS.

- **Energy Optimization Platform**: Created a tool to reduce electricity bills by optimizing solar power usage based on real-time tariff data. Built with Next.js, TypeScript, Tailwind CSS, Clerk, Mongoose, and MongoDB. Link
  - **Tariff Monitoring**: Developed a live tracking interface with predictive analytics for price forecasting.
  - **Analytics**: Extracted actionable insights from real-time and historical consumption data.
  - **Scheduling**: Automated appliance operation aligned with favorable tariff intervals.

- **Rule Engine with AST (Abstract Syntax Tree)**: Constructed a rules engine for eligibility verification using AST for customizable logic creation. Used Node.js, Express, MongoDB, Tailwind, Lucide, Axios, and Clerk. Link
  - **Authentication**: Employed Clerk for secure sessions, enhancing login experience and performance.
  - **AST-Based Evaluation**: Enabled structured, scalable rule evaluation via AST node parsing.

SKILLS

- **Programming Languages**: JavaScript, TypeScript, Python, C++
- **Frameworks & Tools**: React, Next.js, Node.js, Express, REST APIs, Git, Docker, Postman, Playwright
- **Databases**: PostgreSQL, MySQL, MongoDB, Redis
- **Operating Systems**: Unix/Linux (shell scripting, system navigation)
- **Core CS Fundamentals**: Data Structures & Algorithms, OOP, DBMS, Operating Systems
- **Professional Capabilities**: Software development, testing/debugging, troubleshooting, documentation, on-call/production support, project/time management

ACHIEVEMENTS

- **Broad Coding Practice**: Solved over **500+ problems** across various competitive programming platforms.
- **Leetcode**: Solved **300+ problems**; achieved a rating of **1409**. View Profile
- **Codechef**: Secured a **2-star** rating with a peak score of **1497**. View Profile
  - * **Starters 170:** Achieved a global position of **281** after completing all contest problems.
  - * **Starters 199:** Placed **82** worldwide by solving all tasks within the time limit.

- **Luminous Techno-X Hackathon**: Placed in the **Top 86** out of **1 lakh teams** from across the country.
- **Flipkart GRID 6.0 Competition**: Finished in the top **90,000** among **490,000** registered participants.