Manish Kumar Jha

Web Developer

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🪪 Profile

B.Tech ⤢ CSE student skilled in backend development (Python, Node.js, JavaScript, Rust), specializing in scalable, high-performance systems with a focus on user experience.

💼 Professional Experience

Google Developers Group | AI/ML Lead   08/2024 – present
- Delivered 3 TensorFlow/PyTorch workshops to 100+ developers
- Created reusable Jupyter notebook templates with tracking
- Mentored community projects by reviewing code, advising on model architecture (CNNs, transformers)

Smart India Hackathon 2024 | Mentor   10/2023 – 05/2024
- Trained and compared classifiers (Random Forest, XGBoost, SVM) using scikit-learn; achieved 94% accuracy and 0.92 F1-score.
- Analyze profile images with CNNs for reverse-image search and forgery detection
- Compute text/behavior metrics: engagement rates, activity anomalies, bio descriptions, username patterns

📂 Projects

WaveX - Real-time Communication Platform ⤢
Technologies: Next.js, WebRTC, TypeScript
- Built real-time comms with Next.js and Node.js WebRTC signaling
- Enabled adaptive bitrate streaming with TURN fallback
- Tuned UI for ultra-low latency and responsiveness

Maya - LLM Assistant ⤢
Technologies: Python, TTS APIs, Speech Recognition, Machine Learning
- Built modular voice assistant in Python
- integrated wishper TTS and Hugging Face transformers for NLU.
- Integrated multiple TTS and STT APIs for seamless audio workflows

Cube Solver - Algorithm Implementation ⤢
Technologies: JavaScript, Mathematical Algorithms
- Implemented Rubik's Cube solving algorithms (Layer by Layer, Two-Phase)
- Created web-based interface for cube simulation and solving

RustyKeir - Programming Language Implementation ⤢
Technologies: Rust, Lexical Analysis, Parser Development
- Built lexical analyzer and recursive descent parser for expression evaluation
- Implemented floating-point arithmetic with mathematical precision

RustyTasks - CLI Task Management System ⌞⌝
Technologies: Rust, MongoDB, Google OAuth2, Tokio, Clap
- created a thorough command-line interface with cross-device synchronisation for managing to-do lists.
- Google OAuth2 was used to implement secure authentication for user management.
- Developed backend integration with MongoDB for scalability and data persistence

⊙ Skills

Backend Technologies : — **Programming Languages:** Rust, Python, JavaScript, TypeScript │ **Web Frameworks:** Node.js, Next.js │ **Databases:** MongoDB, Supabase JSON-based storage systems │ **Authentication:** Google OAuth2, JWT │ **APIs:** RESTful API development, WebRTC integration

Systems Programming : — **Rust Development:** Command-line applications, system tools, language implementation │ **Performance Optimization:** Memory-safe programming, concurrent processing │ **Tools & CLI:** Task management systems, file managers

Frontend (Supporting Skills) : — **Library:** React.js │ **Styling:** Tailwind CSS, UnoCSS, Material UI (MUI) │ **Build Tools:** Vite, Webpack

Development Tools : — **Version Control:** Git, GitHub │ **Development Environment:** Nvim, Cargo (Rust), npm/yarn │ **Deployment:** Vercel, cloud platforms │ **Testing:** Unit testing frameworks

🎓 Education

Bachelor of Technology in Computer Science and Engineering   09/2023 – 07/2027
Silicon University │ Expected Graduation: 2027 ⌞⌝   Bhubaneswar, OD
Relevant Coursework: Data Structures and Algorithms, Database Management Systems, Computer Networks, Operating Systems, Software Engineering,

📚 Personal Projects & Interests

Gaming: Active interest in CS2 for strategic thinking and teamwork
Open Source: Regular contributor to public repositories, advocating community-driven innovation
Learning Philosophy: *"Driven by curiosity, committed to continuous growth through hands-on experimentation."*

🌐 Languages

English (Professional) ● Hindi (Native) ● Odia (Conversational)