

MANASA MANOJ

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Profile Summary

- Self-driven Software and Web Developer with a strong passion for building intelligent, scalable, and secure web applications using modern full-stack technologies and AI-driven capabilities. Proficient in MERN stack, Django, RESTful APIs, and dynamic UI/UX design, with a deep understanding of web architecture, real-time systems, and backend optimization.
- Specializes in AI agent development, integrating Generative AI (GenAI) models like GPT-4 with custom workflows to power adaptive learning systems, intelligent chatbots, and personalized content delivery. Skilled at developing interactive React-based frontends and connecting them with AI-powered logic via tools like LangChain, n8n, Firebase, and vector-based retrieval systems.

Education

Indian Institute of Information Technology, Kottayam

Aug 2023 - Present

B.Tech in Computer Science And Engineering With Specialisation in Cyber Security - **SGPA: 9.08**

Experience

EdQueries - AI Agent Developer

May 2025 - Present

- Built and integrated an AI chatbot for EdQueries LMS using React, n8n, OpenAI GPT-4, and Upstash Redis, achieving 98% successful response rate across 1,000+ queries.
- Replaced nested sub-workflows with optimized tool nodes, reducing average response time by 65% and improving reliability in real-time learning support.
- Deployed RAG-based contextual search with vector embeddings, enhancing answer accuracy by 40% and significantly reducing AI hallucination.

National Institute of Technology (NIT), Calicut - Research Intern

May 2025 - June 2025

- Researched and prototyped a GenAI-based personalized learning platform using Moodle, focusing on SCORM standards, competency frameworks, and adaptive educational delivery.
- Gained hands-on experience integrating OpenAI GPT-4 with n8n workflows, leading to a functional AI assistant with 94% response accuracy across test cases.
- Conducted performance evaluations of Moodle API integrations and GenAI prompts, identifying architectural optimizations that reduced response latency by 50%.

Skills and Competencies

Languages: JavaScript, Python, C++, Java

Frameworks & Tools: React.js, Node.js, Express.js, EJS, Django, Tailwind CSS, MongoDB, MySQL, REST APIs, GitHub, Figma

AI & GenAI: GPT-4/3.5 APIs, LangChain, Streamlit, Hugging Face Transformers

Security/Quantum: Qiskit, RSA/AES, Shor's Algorithm, Grover's, BB84 QKD, Wireshark

Dev Tools: Linux, n8n, Firebase, Upstash Redis, Docker

Projects

Blip Journal : Blog Platform | Node.js, Express.js, MongoDB, EJS, Tailwind CSS

[Code](#) [Live](#)

- Developed a fully server-side rendered blogging platform using EJS, Express.js, and MongoDB, following the MVC pattern.
- Implemented user authentication, post/comment creation, and role-based access (only authors can edit/delete)

AI Chat Assistant – VS Code Extension | TypeScript, React, OpenAI API, VS Code API

[Code](#)

- Built a VS Code extension with a React-based WebView chat assistant that uses GPT-4 for code generation and refactoring.
- Added support for @filename mentions to include live workspace context and attached files into chat prompts.
- Integrated OpenAI's chat completions API and handled AI communication via VS Code backend.

Eclipse – Modern Fashion eCommerce Platform | React.js, Tailwind CSS, TypeScript, Context API

[Code](#) [Live](#)

- Developed a responsive fashion storefront using React, Tailwind CSS, and Context API for cart and theme management.
- Implemented dynamic product galleries, testimonials, and hover-based transitions with reusable components.

3D Solar System Simulation | Three.js, JavaScript, Responsive Web Design

[Code](#) [Live](#)

- Developed a fully interactive 3D solar system with orbiting planets, real-time speed controls, tooltips, and responsive UI using Three.js and modern JS.
- Implemented animation loops, camera controls, and performance optimizations for smooth, frame-rate independent rendering across devices.

Relevant Coursework

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|--------------------------------|-------|---------------------|-------------------------------------|
| • Quantum Computing & Security | • OS | • Computer Networks | • Risk Management |
| • Secure Software Engineering | • DSA | • DBMS | • Design and Analysis of Algorithms |

Extracurriculars / Certifications

- Full Stack Web Development With MERN STACK & GenAI 2025 - [View Credentials](#)
- Research paper on Quantum Machine Learnig(QML) - [View](#)
- IBM Quantum Computing Certificate – [View Credentials](#)
- Google Cybersecurity Professional Certificate(Coursera) – [View Credentials](#)

Additional Information

- **Languages:** English (Fluent), Hindi (Basic), Malayalam (Native)
- **Interests:** Web Development, Quantum Computing, Cryptography, secure systems