Ashutosh Mishra

Education

Vellore Institute Of Technology

May 2022 - May 2026

B. Tech in Computer Science Engineering (AI and ML) — Specialization: E-Commerce

Bhopal, Madhya Pradesh

Experience

 ${\bf Sep~2024-March~2025}$

AI Research Intern

Canada, Remote

- Fine-tuned AI conversational models with OpenAI's Assistant API, enhancing response accuracy, contextual understanding, and overall user engagement through advanced NLP techniques.
- Collaborated with the Metaverse team to integrate AI-driven conversational agents into immersive 3D environments.
- Developed AI-powered automation tools to streamline internal workflows, optimize API communications, and enhance real-time data processing efficiency, thereby improving system reliability by 25%.
- Designed a lightweight, plug-and-play iframe popup for seamless client website integration, achieving a 35% uplift in user engagement through instant deployment with minimal code and full cross-platform compatibility.
- Refactored asynchronous event processing by replacing recursive callbacks with async/await loops and Promise-based delays, reducing response latency by 20% and improving code maintainability.

D2i Technology June 2024 – Sep 2024

Software Engineer Intern

Noida, Remote

- Spearheaded the development of an IoT-based power telemetry system using Raspberry Pi 4 for real-time energy monitoring and real-time motor fault detection, leveraging Snap7 for Siemens S7-1200 PLC communications.
- Revamped secure multi-user data storage by deploying MS SQL Server containers in Docker, bolstering system scalability, ensuring robust data integrity, and reducing latency in high-demand scenarios.
- Crafted an interactive analytics dashboard with Grafana and Appsmith for real-time data visualization and analytics, enhancing operational insights and boosting user engagement by 50%.
- Devised a hybrid networking architecture by merging Twingate with edge computing on Raspberry Pi, cutting network latency by 30%, bolstering fault tolerance, and optimizing bandwidth for improved operational efficiency.

Projects

AI Manavrachna Teacher | Next.js, Babylon.js, OpenAI API, Node.js, Azure TTS

- Spearheaded the creation of an AI-driven teaching assistant leveraging OpenAI's Assistant API to deliver interactive Q&A sessions and personalized learning, bolstered user interactions by 20%.
- Implemented responsive facial expressions and responsive animations with real-time lip-syncing via Azure Viseme.
- Integrated Azure TTS to enable lifelike voice synthesis in multiple languages, enhancing accessibility and communication effectiveness by 40%.

3D Portfolio Website | React.js, Three.js, React Fiber, GSAP, Tailwind CSS, EmailJS

- Conceived an interactive 3D portfolio using Three.js and React Fiber, showcasing various WebGL elements.
- Implemented a 3D Earth model and animated avatars with interactive movements, elevating user interactivity by 30%.
- Leveraged EmailJS for seamless contact form integration, resulting in a 100% uptick in customer inquiries.
- Refined rendering performance through lazy loading, asset compression, and GSAP-powered smooth animations, achieving a 20% improvement in load times, to create an immersive visual experience.

AriseGYM | React.js, Node.js, YouTube API

- Structured gym website featuring a searchable exercise database with category-based filtering for improved accessibility.
- Integrated YouTube API to provide users with relevant workout tutorials based on selected exercises.
- Crafted a responsive, intuitive user-centric UI interface that enhanced overall navigation and engagement.

Technical Skills

Languages: TypeScript, JavaScript, Python, PHP, C++, Rust, Go

Web Development: HTML5, CSS (Tailwind, Bootstrap, Flexbox), JavaScript (VanillaJS, jQuery, AJAX), JWT Frontend: Next.js, React.js, Vue.js, Three.js, Babylon.js

Backend: Node.js, Express.js, Deno, FastAPI, RESTful and GraphQL APIs, Django, PHP Laravel, Snap7 Databases: MySQL, PostgreSQL, SQLite, MongoDB, MS SQL Server

AI & ML: OpenAI/DeepSeek/Ollama APIs, LLMs, Fine-tuning, Hugging Face, n8n, Sentiment Analysis, Recommendation Systems, Computer Vision, NLP, LoRA, LangChain

ML Techniques: Feature Engineering, Model Optimization, Hyperparameter Tuning, SHAP

Python Libraries: PyTorch, TensorFlow, OpenCV, NumPy, Pandas, Matplotlib, Scikit-learn, SciPy, Seaborn

Tools & Platforms: Git, GitHub, Docker, Linux, Raspberry Pi, PLC, Grafana, Twingate, Appsmith, Neovim, NixOS