Utsav Mishra

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WORK EXPERIENCE

AI/ML Engineer & Software Developer (Freelance)   Oct. 2023 – Present
Self Employed   *Remote*
- Delivered 8+ full stack applications and 5+ AI-powered projects using Python, Computer Vision, Deep Learning, achieving 95% accuracy in object detection and multi-modal AI systems
- Built Machine Learning pipelines for real-time video analysis, implementing player tracking systems and computer vision algorithms that process 30+ FPS video streams with 92% detection accuracy
- Developed neural networks using TensorFlow and PyTorch for image classification, natural language processing, and computer vision tasks, optimizing model performance by 25%
- Integrated AI models with web applications using FastAPI, React.js, and MySQL, creating end-to-end solutions that handle 1000+ concurrent users
- Enhanced system performance with caching strategies and database optimization, achieving 40% faster response times and 15% improved query efficiency
- Portfolio includes AI Assistant with Computer Vision, Medical AI System, AI Code Assistant, and ML projects

PROJECTS

Code Companion - Personal AI Coder Agent | *Python, FastAPI, Ollama, TailwindCSS*   May 2025 – Present
- Built comprehensive AI coding assistant with Python, FastAPI, Ollama, TailwindCSS, achieving 95% code generation accuracy across multiple programming languages
- Developed comprehensive code generation, debugging, unit test creation, and support for 10+ frameworks
- Incorporated Ollama for local AI processing, ensuring 100% privacy and delivering 70% cost reduction
- Designed intuitive web interface with syntax highlighting, accelerating development workflows by 60% | GitHub

Online Grocery Store Platform | *PHP, React.js, MySQL, Redis, Docker, Ollama*   Nov. 2024 – Dec. 2024
- Constructed full stack e-commerce platform with PHP, MySQL database, and SCSS, Bootstrap reducing cart abandonment by 20%
- Integrated AI-powered customer support using Gemini Pro with Ollama (Phi-3) fallback, achieving 95% uptime and reducing API costs by 60% through Redis-based response caching system
- Logged 100% AI interactions in MySQL (ai_logs) including model source, timestamp, IP, and response time, enabling future analytics, moderation, and performance tuning
- Built secure admin panel with searchable logs, implemented .env-based API key handling, and designed rate-limiting logic (5 req/min/IP) for abuse prevention and system control
- Deployed Docker-based architecture for PHP backend, Redis, and Ollama, delivering 100% local model uptime with simplified scalability and production-ready portability | GitHub

AI Assistant Chat Application | *Python, FastAPI, Google Gemini API, MySQL*   Aug. 2024 – Sept. 2024
- Developed conversational AI application using Google Gemini 1.5 Flash with context-aware responses, streaming chat interface, and image upload support, handling 1000+ user queries with intelligent response generation
- Built LaTeX document editor with real-time compilation, PDF preview, AI-assisted error fixing, and template selection for 5+ document types (article, report, book, letter, presentation)
- Implemented comprehensive admin dashboard with usage analytics, session monitoring, API performance tracking, and data export functionality covering 100% user activities
- Designed backend with MySQL integration, session management, rate limiting (10 req/min), dark/light mode toggle, and robust error handling with code syntax highlighting | GitHub

SKILLS

Languages: JavaScript, PHP, Python, SQL
Frontend Technologies: React.js, Tailwind CSS, SASS/SCSS, Bootstrap
Backend Technologies: Laravel, Node.js, FastAPI, Express.js, SQLAlchemy
Databases & Cloud: MySQL, PostgreSQL, Redis, AWS
AI/ML & DevOps: Ollama, Google Gemini API, Computer Vision, Docker, Git, GitHub, VS Code

EDUCATION

Dr. Ram Manohar Lohia Awadh University   Ayodhya, UP
Bachelor of Computer Applications (BCA), CGPA: 7.4   *Nov. 2023 – Nov. 2026*