

UDAY KIRAN CHIMPIRI

Gen AI & Machine Learning | Python | Full-Stack Software developer | Cloud & Agile Practices

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Experienced Software Engineer with 5+ years leading end-to-end, client-facing projects as a techno-functional lead in large enterprises. Skilled in Python, data analytics, and scalable systems with a focus on customer-centric delivery. Recently contributed to GenAI and LLM fine-tuning as a Research & Teaching Assistant, aiming to transition fully into AI/ML engineering.

PROFESSIONAL EXPERIENCE

Full Stack Developer Intern | The Donovan's Venom 501c3 • Remote

Jul 2025 – Present

- **Authentication & Payment Systems:** Developed and maintained secure payment systems with PayPal integration, implementing robust authentication mechanisms that handled 500+ monthly transactions with zero incidents and streamlined onboarding process.
- **User Analytics:** Built user activity tracking and analytics dashboard to provide insights on engagement patterns, enabling data-driven decisions that increased retention by 25% and collaborated with teams to define features enhancing user experience.

Graduate Research & Teaching Assistant | University of North Texas • Denton, TX

Jan 2024 – May 2025

- **Agile Leadership & Technical Coaching:** Managed 10+ capstone projects as Agile Scrum Master, mentoring 100+ students in Python, React.js, and SQL through workshops and 1:1 support. Raised project quality to industry standards, increasing average scores by 20%.
- **RAG-Based LLM Chatbot:** Built an AI chatbot using RAG, FAISS, and LLMs, trained on web-scraped and advisor-curated data to automate student advising with real-time, accurate responses-improving access for 2000+ students and reducing faculty workload.

Senior Software Development Engineer | Accenture Solutions • India

Jan 2023 – Aug 2023

- **AI-Driven Resource Optimization:** Engineered an AI-based drug inventory management system for a pharmaceutical client using Python, ML, and AWS, predicting drug inventory needs, improving material readiness by 30% and optimizing supply chain efficiency.
- **Impactful Data Analytics:** Spearheaded end-to-end development of a sales & distribution dashboard using React.js, D3.js, and Python, delivering real-time insights that improved business decision-making by 25% and reduced inefficiencies by 15%.
- **Defect Reduction:** Conducted QA testing on 150+ modules and led peer code reviews to catch defects before production, reducing critical bugs by 90%. Educated team members on best practices, significantly improving overall code quality and system stability.

Senior Software Engineer | Capgemini Technology Services • India

Dec 2018 – Dec 2022

- **Techno-Functional Leadership:** Led a 10-member cross-functional team in backend system development, directly engaging with clients to understand and translate requirements. Coordinated collaboration across technical and functional teams, resolving blockers and providing guidance to boost team productivity and ensure timely, high-quality delivery aligned with business goals.
- **Scalable API Design:** Designed and deployed high-performance RESTful APIs for an internal e-commerce catalog using Node.js and MySQL. Optimized back-end services with caching and load balancing, supporting 50K+ internal service calls/day.
- **Automated Code Quality Tool:** Developed and integrated a custom tool to automate code quality checks, reducing manual review time by 50% and defect rates by 30%. Promoted consistent coding standards and fostered a culture of quality and accountability.
- **Performance Tuning:** Analyzed execution plans to identify bottlenecks and optimized legacy SQL queries by rewriting joins, indexing key columns, and reducing subqueries-cutting report time from 3 to under 1 minute and boosting performance during peak loads.
- **Production Reliability:** Facilitated debugging and resolution of recurring high-severity production issues by implementing stable fixes, reducing incident frequency by 40% and improving system uptime by 15%, thereby significantly enhancing service reliability.

PROJECTS

Clairvoyant v2.0 – Stock Forecasting App | [Streamlit](#), [yfinance](#), [Prophet](#), [Plotly](#), [LSTM](#), [Scikit-Learn](#), [Matplotlib](#), [TensorFlow](#)

- Developed an interactive Streamlit-based web application, for stock price forecasting, leveraging Facebook's Prophet model and LSTM neural networks for trend analysis to predict future stock values up to one year.
- Implemented interactive data visualization for stock prices and trading with features including historical data viewing, interactive charting, and customizable forecasting periods, enhancing informed investment and trading decisions.

ArguLex – AI-Powered Legal Argument Generator | [Next.js](#), [FastAPI](#), [Python](#), [LangChain](#), [Legal-BERT](#), [Firestore](#), [ChromaDB](#), [Tailwind CSS](#)

- Implemented a GenAI application leveraging a Retrieval Augmented Generation (RAG) system with LangChain and a fine-tuned Legal-BERT model to generate nuanced legal arguments from court records obtained via the CourtListener API.
- Engineered a secure, full-stack architecture featuring a Next.js frontend with Firestore Authentication and Auth Context for robust user management, complemented by FastAPI for API services that stream LLM responses, and styled with Tailwind CSS.

Smart Attendance Management System with Face & Mask Recognition | [Python](#), [OpenCV](#), [TensorFlow/Keras](#), [Firestore](#), [Streamlit](#)

- A real-time facial recognition attendance system created using Python, OpenCV, and CNN (Keras/TensorFlow), enabling accurate, contactless, and automated attendance with significant time and error reduction.
- Integrated Firestore for secure, scalable cloud storage and real-time synchronization of attendance records, enabling centralized monitoring, analytics, and transparent reporting for administrators.

SKILLS

Programming & Databases: Python, JavaScript, TypeScript, C, C++, Java, ABAP, PostgreSQL, MySQL, Cassandra, MongoDB, Firestore

Frameworks & Libraries: Django, Fast API, React, Next.js, Express, Flask, Node.js, TensorFlow, Scikit-learn, OpenCV, PySpark, LLMs, RAG, Vector Databases, AI Agents, LangChain, Transformers, HuggingFace, NLTK, SpaCy, Matplotlib, Seaborn

Platforms & Tools: AWS (SageMaker, Lambda), GCP, Azure, Docker, Kubernetes, Git, Hadoop, CI/CD Pipelines, Queues, Redis, Neural Networks, Microservices, Pandas, NumPy, Postman, Ollama, LMStudio

Other: Leadership, Cross-functional collaboration, Communication, Continuous learning, Prompt Engineering

EDUCATION

Master of Science – Computer Science | University of North Texas • GPA: 3.9/4.0 • Denton, TX

Aug 2023-May 2025

• **Coursework:** Machine Learning, Natural Language Processing, Artificial Intelligence, Deep Learning, Big Data, Software Development for AI

Certifications: Agile Software Development • Microsoft Azure Fundamentals