

Nijgururaj Ashtagi

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EDUCATION

Master of Science in Computer Science <i>Illinois Institute of Technology, Chicago, IL</i>	2024 - 2026
Bachelors of Engineering (Computer) Honours* in Data Science <i>Savitribai Phule Pune University, Pune, Maharashtra, India</i>	2020 - 2024

EXPERIENCE

AI & Infrastructure Engineer <i>S3CURA Inc. (Start-up)</i>	January 2025 – Present <i>Chicago, IL</i>
<ul style="list-style-type: none">Designed a video query microservice with Google Gemini + Python to generate structured reports with timestamps, improving investigation speed.Automated evidence extraction with OpenCV to crop people/objects from videos, reducing manual review effort for law enforcement.Built 25+ APIs with AWS API Gateway, Lambda, DynamoDB to enable user management, data storage, and retrieval, strengthening platform reliability.Implemented WebSocket APIs to support real-time communication, enhancing live crime reporting workflows.Automated VPN setup with AWS Step Functions + Lambda to securely link Raspberry Pi devices with AWS, reducing manual networking overhead.Configured Raspberry Pi + FastAPI to run edge services on boot, ensuring continuous device availability in client environments.Containerized inference tools using Docker and deployed MLOps workflows via Lambda Layers and ECR, ensuring modular and scalable deployment across environments.	

SKILLS

Languages: Python, SQL
Data Engineering: Spark, Delta Live Tables, Azure Data Factory, Azure Synapse, BigQuery, Autoloader
Machine Learning/AI: TensorFlow, Scikit-learn, OpenCV, Google Gemini, LangChain
Cloud Platforms: Azure, AWS, Google Cloud
Tools: Docker, Git, GitHub, Power BI, Looker Studio, Databricks
Certifications: Google Cloud Big Data and ML Fundamentals, Modernizing Data Lakes with GCP

PROJECTS

Predictive Stock Market Analysis <i>Python, Pandas, NumPy, Scikit-learn, Matplotlib</i> <ul style="list-style-type: none">Built a predictive trading model in Python by applying statistical analysis to 15+ engineered financial indicators, achieving 96.6% forecast accuracy.Developed and tested an algorithmic trading strategy using a Pandas backtesting simulation to analyze and validate model profitability.Conducted quantitative research in Python by cross-validating 5 machine learning models to identify the optimal algorithm for generating trading signals.Applied a Random Forest feature selection method to identify the most predictive financial indicators, increasing model efficiency and interpretability.
AI Resume Builder (SaaS Product) <i>Python, FastAPI, OpenAI API, PostgreSQL, Docker</i> <ul style="list-style-type: none">Built a resume generation SaaS backend with FastAPI + OpenAI API to deliver job-tailored resumes, improving application success rates.Designed secure multi-user authentication with JWT + PostgreSQL to support scalable account management and data persistence.Containerized services with Docker to enable cloud deployment, ensuring portability and production-grade scalability.Optimized async workflows to reduce API response times, enhancing real-time resume generation for end users.
Deep Learning for Automated Image Captioning (Published Research) <i>NLP, CNN, RNN, LSTM, TensorFlow, Python</i> <ul style="list-style-type: none">Built and trained a deep learning model with CNN and LSTM in TensorFlow, achieving 85%+ accuracy on image captioning tasks.Evaluated outputs with BLEU scores and attention heatmaps to improve interpretability by 20% for complex image-text mappings.Applied NLP preprocessing and embeddings on 1M+ samples, enhancing data quality and boosting model training efficiency.Published research in Springer peer-reviewed journal, demonstrating technical innovation and research writing expertise.