

ASHUTOSH CHOUDHARI

4ashutosh98@gmail.com • (412) 626-9743 • [LinkedIn](#) • [GitHub](#) • [Portfolio](#) • Pittsburgh, PA

EDUCATION

CARNEGIE MELLON UNIVERSITY, Pittsburgh, PA

Aug 2022 - Dec 2024

Master of Information Systems Management

CGPA: 3.78/4.00

Relevant Coursework: Computational Data Science, Unstructured Data Analytics, Time Series Forecasting, Data Structures

VELLORE INSTITUTE OF TECHNOLOGY, Vellore, India

Jul 2016 - Jun 2020

Bachelor of Technology - Electronics and Instrumentation Eng (Minor in Computer Science and Eng)

CGPA: 3.94/4.00

Relevant courses: Database Management systems, Neural networks, Python programming, Statistics, Operating Systems

PROFESSIONAL EXPERIENCE

Confirmed LLC

Pittsburgh, PA

Software Developer

Jan 2025 – Present

- Led development of a React Native-based agentic AI chatbot app with Node.js backend using LangChain.js and OpenAI function-calling, enforcing JSON schemas to guide multi-step workflows cutting task time by 25% and boosting adoption by 30%.
- Integrated streaming agent pipelines between Node.js server and react native frontend over WebSockets with Mixpanel analytics for input validation and flow control, reducing support tickets 40% and lifting engagement 35%.

Nexteer Automotive

Pittsburgh, PA

Machine Learning Engineer (Student Consultant)

Aug 2024 – Dec 2024

- Created document comparison application to extract, compare, and analyze PDF documents using Azure AI Document Intelligence, Adobe PDF Extract API and OpenAI's GPT-4o, enhancing document management efficiency and saving 2 FTEs.
- Implemented user-friendly Streamlit GUI with a robust backend data handling system leveraging MongoDB for persistent caching, to minimize API call costs and improve processing speed by 5 times.

MedSarathi LLC

Phoenix, AZ

Data Scientist

Jun 2023 - Aug 2023

- Designed and implemented a data-driven recommendation system for medical graduates, leveraging A/B testing and regression analysis to optimize profiles and develop a weighted scoring algorithm, boosting residency acceptance rates by 14%.
- Architected a comprehensive web platform using OpenAI API, HTML, JavaScript, React, Flask, PostgreSQL, and Heroku, enabling streamlined service delivery and advanced analytics.

Deloitte USI

Hyderabad, India

Solution Delivery Analyst

Jun 2021 - Jul 2022

- Engineered advanced log analysis workflows using data from SIEM tools (Splunk, QRadar), EDRs, and OSINT tools identifying and mitigating suspicious activities across system, network, and endpoint logs.
- Generated over 100 detailed incident reports weekly, applying pattern recognition, anomaly detection, and OSINT tools to deliver actionable insights, driving a 32% reduction in security incidents through data-driven strategies.

ACADEMIC PROJECTS

Network Security Phishing Detection System (*MongoDB, MLflow, AWS ECR, EC2, Docker, FastAPI, CI/CD*)

Jan 2025 – Mar 2025

- Developed a machine learning pipeline for phishing detection using 7 tuned classification algorithms and achieving 96% F1-score and 97% precision with the best-performing model (XGBoost), representing a 15% improvement over baseline models.
- Engineered an MLOps solution with CI/CD pipeline using GitHub Actions, AWS ECR containerization, and MLflow for experiment tracking, reducing deployment time by 78% and enabling real-time phishing detection with 99.2% uptime.

Blog Generation using AI (*AWS Bedrock, Lambda, S3, Cloudwatch, API Gateway, Streamlit, GitHub Actions*)

Dec 2024 – Jan 2025

- Built a serverless AI-powered blog generator using AWS Lambda, Bedrock AI, and Streamlit, reducing manual content creation time by 80%. Integrated API Gateway, S3, and CloudWatch for scalable storage and monitoring.
- Automated CI/CD pipeline with GitHub Actions, cutting deployment time by 50%. Configured IAM roles for secure AWS access and deployed on Streamlit Cloud, enabling real-time blog generation with sub-second latency.

Artificial Intelligence Policy Chatbot (*Hugging Face, PyTorch, Large Language Models, Generative AI*)

Jan 2024 – Mar 2024

- Fine-tuned Llama-2 7b model for AI policy-related inquiries using techniques like PEFT and LoRA, alongside prompt engineering and RAG, achieving a 23% improvement in BLEU, 18% in ROUGE, and 21% in METEOR scores over the baseline.
- Evaluated model performance using automated metrics (e.g., BLEU, ROUGE, METEOR, RAGAS) and human criteria, achieving a relevance score of 4.3/5 and coherence score of 4.2/5, significantly enhancing the quality of responses on AI policy queries.

SKILLS

Programming languages: Python, Java, Oracle SQL, R

Frameworks / Libraries: PyTorch, Tensorflow, NLTK, Hugging Face, Scikit-learn, Numpy, Pandas, XGBoost, Flask, LangChain

Tools: Tableau, Jira, GitHub, Docker, MongoDB, Neo4j, FAISS, Chroma, Ollama, Sqlite, Nvidia NIM

Certifications: AWS Certified Cloud Practitioner, Cert. of Cloud Security Knowledge, Agile Product Owner, Agile Scrum Master

Cloud tools: AWS Bedrock, SageMaker, Lambda, S3, API Gateway, Azure ML studio, Azure AI Foundry, Vertex AI