

# ASHUTOSH CHOUDHARI

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

Software/AI/ML Engineer and Data Scientist with 3+ years of experience designing automation pipelines, LLM driven solutions, and cloud native applications. Strong engineering background with expertise in microservices, and distributed processing. Adept in NLP, data science, deep learning, and MLOps, delivering reliable, production ready solutions that drive measurable business impact.

## EDUCATION

CARNEGIE MELLON UNIVERSITY, Pittsburgh, PA

Aug 2022 - Dec 2024

CGPA: 3.78/4.00

Master of Information Systems Management

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

## EXPERIENCE

AI/ML Engineer, Pyramyd (Remote)

Jun 2025 - Dec 2025

- Designed a **transformer-based ML model** in **PyTorch** to predict ratings for software product reviews achieving **87%** accuracy.
- Developed **AI-powered RFP Requirements Extractor** using **o4-mini LLM** and **Azure AI Search**, implementing parallel processing architecture to extract, categorize requirements from proposal documents with **90%+** accuracy across documents.
- Optimized performance for **5x** concurrent processing with vector search for intelligent document cross-referencing.

Software Developer, Confirmed LLC (Pittsburgh, PA)

Feb 2025 - Sep 2025

- Developed microservice using **LangChain**, **FastAPI**, **Azure Container Apps** for nametag scanning, achieving **92% accuracy**.
- Integrated **Python service** with .NET backend via **REST APIs**, optimized SQL query performance by **43%** through **NL-to-SQL**.
- Built **CI/CD pipeline** in **Azure DevOps** with pytest testing and **Docker** deployment; reduced deployment time by **70%**.

Machine Learning Engineer (Student Consultant), Nexteer Automotive (Remote)

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**.

Data Science Intern, MedSarthi LLC (Remote)

Jun 2023 - Aug 2023

- Developed an A/B tested, regression-weighted recommendation engine, increasing residency acceptance by **14%**.
- Built a full-stack web app (**GPT-4**, **React**, **Flask**, **PostgreSQL**, **Heroku**) for streamlined service delivery and advanced analytics.

Solution Delivery Analyst, Deloitte (Hyderabad, India)

Jun 2021 - Jul 2022

- Developed a **Python-based IOC triage tool** to process **500+ IPs, domains, URLs, and emails** daily, classifying inputs, and integrating OSINT APIs (VirusTotal, WHOIS, AbuseIPDB), reducing average query time by **65%** with parallel execution.
- Architected a **Flask REST backend** with **PostgreSQL** and **Redis**, exposing endpoints for IOC normalization, rate-limit handling, and API key management, enabling **multi-user scalability and cutting redundant OSINT calls by 40%**.
- Built a **React-based frontend** with **secure API integration** to provide dashboards, results tables, and export workflows (Markdown/PDF/CSV), ensuring **consistent and auditable threat intelligence reporting across environments**.

## PROJECTS

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

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.

CGM Systems Analysis and Improvement Recommendations (*NLTK, Scikit Learn, genism, matplotlib*)

Aug 2023 - Dec 2023

- Analyzed 40,000+ social media posts about CGM systems using LDA topic modeling (0.78 coherence score) and VADER sentiment analysis (89% accuracy), identifying 5 key discussion topics per brand and user sentiment patterns.
- Extracted actionable insights by segmenting user sentiment across product features, revealing critical pain points around insurance coverage (37% negative) and app functionality (28% negative), informing strategic product improvement recommendations.

Question-Answering System Development (*Azure Machine Learning, PyTorch, nltk, spaCy, Transformers*)

Sep 2023 - Nov 2023

- Fine-tuned a pre-trained BERT model for question-answering tasks, achieving 68% accuracy on the SQuAD test set, a 28% improvement over the pre-trained model.
- Deployed the fine-tuned BERT model as a scalable cloud-based question-answering service on Azure Container Instances (ACI), leveraging Azure ML for deployment, achieving efficient inference on unseen data.

## SKILLS

Programming languages: Python, Java, SQL, R, JavaScript, HTML, CSS

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 AI Foundry, GCP Vertex AI, BigQuery