AJAY RAY SAMALA

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PROFESSIONAL SUMMARY

AI/ML Engineer with hands-on experience in Retrieval-Augmented Generation (RAG), speech intelligence, and cloud-based AI systems on Microsoft Azure. Skilled in building end-to-end machine learning pipelines, LLM-powered applications, and scalable AI automation solutions. Strong foundation in deep learning, NLP, and full-stack development with a focus on production-ready AI systems.

SKILLS

- **Languages:** Python, Java, C, SQL, HTML, JavaScript
- **Frameworks/Tools:** React.js, Node.js, Flask, FastAPI, Git, GitHub, Docker (Basics)
- **Databases:** MySQL, MongoDB, FAISS (Vector DB)
- **Concepts:** Data Structures, Object-Oriented Programming
- **AI/ML:** Scikit-Learn, Pytorch, Retrieval-Augmented Generation (RAG), OpenAI, Hugging Face Transformers, Vision Transformers, Prompt Engineering, Semantic Search, Vector Embeddings
- **Cloud:** Azure Fundamentals**,** Azure AI Services, Azure Foundry
- **Soft Skills:** Communication, Team Collaboration, Problem Solving, Adaptability

EDUCATION

❖ B. Tech in Computer Science (AI & ML**)** | Malla Reddy University

CGPA*: *9.1* | *2025

EXPERIENCE

❖ AI App Developer – Teleperformance

June 2025 – Present

- Engineered machine learning models for real-time speech analysis to automatically detect and classify customer issues.
- Built and integrated an AI-driven speech processing pipeline with ServiceNow, automating ticket creation and reducing manual intervention.
- Designed an end-to-end AI incident management workflow, improving operational efficiency and response time.
- Collaborated cross-functionally to deploy scalable AI solutions in a production environment.

ACADEMIC PROJECTS

- **Personal Vault – Secure Multi-Modal RAG System (Azure)**
  - Architected a secure multi-modal Retrieval-Augmented Generation (RAG) platform on Microsoft Azure for intelligent storage and retrieval of sensitive documents.
  - Implemented OCR using Azure Document Intelligence and semantic vector search using Azure AI Search.

- Developed a scalable cloud-native pipeline with Azure OpenAI, enabling natural language querying over private data with strong access control and encryption.

- **AI-Powered Speech Analysis & Automated Incident Management**
  - Developed speech intelligence models to automatically identify and categorize customer issues from audio streams.
  - Automated ServiceNow ticket generation using AI-driven workflows, minimizing manual support overhead.
  - Streamlined enterprise incident management through a fully automated AI pipeline.

- **Alzheimer's Disease Detection using Vision Transformers**
  - Built a deep learning model using Vision Transformers (ViT) to classify brain MRI scans into five cognitive stages (CN, MCI, EMCI, LMCI, AD).
  - Deployed the model via Flask with an interactive web interface for clinical usability.

- **Brain Tumour Detection using CNN and MRI Scans**
  - Designed and trained a CNN model for brain tumour detection with advanced preprocessing and data augmentation.
  - Delivered the solution through a Flask-based web application for real-time predictions.

- **Emotion Detection in Customer Detection Using Sentiment Analysis**
  - Developed a Flask web application to classify emotions (joy, anger, sadness, fear, surprise) from text feedback.
  - Leveraged BERT and LSTM models from Hugging Face to provide real-time sentiment insights.

CERTIFICATIONS

- **Java Programming** – Luke University, Coursera
- **Introduction to HTML/CSS** – University of Michigan, Coursera
- **Introduction to SQL** – University of Michigan, Coursera