Imon Bera

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About Me
Master's candidate in Computer Science specializing in AI/ML with hands-on experience developing healthcare-focused AI solutions. Proficient in designing LLM frameworks, optimizing human-AI interactions, and implementing clinically accurate NLP systems. Skilled in Python, generative AI APIs, and cloud-based AI deployments for healthcare applications.

Education

Drexel University
Sep. 2023 – Present
MS in Computer Science (GPA: 3.85) - AI/ML Specialization
Relevant Coursework: Machine Learning, Deep Learning, Natural Language Processing

Bengal Institute of Technology
Jul. 2019 – Jun. 2023
BTech in Computer Science (CGPA: 9.14)

Technical Skills

Languages: Python, SQL, Java
AI/ML: Prompt Engineering, LLM Fine-Tuning, NLP (BERT, Word2Vec, VADER), TensorFlow, PyTorch
Tools: Hugging Face Transformers, OpenAI GPT-4o, vLLM, llama.cpp, Google Cloud Speech-to-Text
Cloud: GCP (Vertex AI, Firestore), AWS (EC2), Docker, Terraform
Healthcare Tech: Clinical Data Analysis (DICOM, OASIS), HIPAA-compliant system design

Experience

AI Engineer Intern
Tapistro, Inc. | *Jun 2024 - Dec 2024* | *San Francisco, CA*
- Designed LLM Agentic RAG framework with healthcare-compliant JSON data extraction, reducing error rates by 35% through iterative prompt refinement
- Integrated multi-API fallback system (Bing Search/Custom Search) to ensure reliable responses for medical queries
- Collaborated with UX teams to optimize conversational flows using Mixtral-8x7b and Llama3-70b models
- Implemented HIPAA-compliant data storage using Firestore vector DB and GCP security protocols

Research Assistant
LeBow College of Business | *Jan. 2024 – Mar. 2024* | *Philadelphia, PA*
- Developed Python-based automation tools for healthcare research data processing
- Migrated legacy Perl medical record systems to Python, improving processing reliability by 70%

Healthcare AI Projects

Alzheimer's Classification (OASIS Dataset)
- Achieved 86% accuracy in multi-class dementia prediction using custom ensemble models
- Processed 80,000+ brain MRI images with clinical data alignment (CDR values)
- Implemented HIPAA-compliant data pipelines for medical imaging analysis

Voc-Notes: Medical Lecture Analysis Tool
- Developed real-time transcription system using Google Cloud Speech-to-Text
- Created clinical note generation pipeline with Mixtral-8x7b (summarization) and Llama3-70b (structured output)
- Implemented PyMongo for secure storage of PHI data

Multilingual Audio Emotion Analysis
- Built LSTM/GRU models for patient emotion recognition using RAVDESS/TESS datasets
- Achieved 92% accuracy in cross-lingual emotion classification for therapy session analysis

Certifications

- **Reinforcement Learning Specialization** (Coursera)
- **Google Data Analytics Professional Certification**
- **Healthcare NLP** (Self-Studied via Hugging Face Medical NLP Resources)

Activities

- **Dean's Fellow**: Led AI in Healthcare seminar series at Drexel CCI
- **IEEE Member**: Organized hackathons for medical AI solutions