

# Abdur Rahim

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## Technical Skills

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**Languages:** Python (AsyncIO, Type Hints), SQL  
**Voice AI:** Pipecat, Whisper, Ultravox, Kokoro, Deepgram, WebRTC  
**LLM/ML:** vLLM, HuggingFace, PyTorch, TensorFlow, LangChain, RAG, Function Calling  
**Infrastructure:** Docker, AWS, CUDA, GPU Optimization, Vector DBs, Model Quantization

## Professional Experience

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**Senior AI Engineer** ESAP, Saudi Arabia (Remote) May 2025 – Present

- Built production voice agents with Pipecat achieving <100ms TTFB for real-time interactions
- Developed custom LLM services with vLLM, Ultravox (audio-to-text LLM), and HuggingFace models
- Created custom TTS services (Kokoro) with streaming optimization and GPU acceleration
- Implemented function calling and agentic workflows with Qwen/Llama models using RAG
- Optimized multi-model GPU deployments (Whisper, vLLM, TTS) on RTX 3090/4090
- Built voice-controlled web automation with LLM agents and Playwright for ERP integration

**AI Prompting & Alignment Specialist** Outlier.ai, Remote June 2024 – Apr 2025

- Analyzed LLM outputs for RLHF data collection and alignment quality across multiple model families
- Engineered progressive-difficulty prompts to benchmark reasoning limits and evaluate model capabilities
- Optimized model performance through structured Chain-of-Thought prompt engineering

## Competitive Experience

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**Kaggle Competitions Expert** Dec 2019 – Present

- Competing with top data scientists from Google, NVIDIA, HuggingFace, Samsung & H2O.ai
- Developing ML models for complex challenges including Google Code Golf 2025 (NeurIPS competition)
- Google Landmark Recognition, **Silver Medal** | Google Landmark Retrieval, **Silver Medal**
- SIIM-ISIC Melanoma Classification, Top **12%** | OpenVaccine mRNA Degradation, Top **12%**

## Projects

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**AI Customer Service Voice Agent** [GitHub Repo](#)

- Built end-to-end voice AI pipeline using local open-source stack (Whisper, Llama.cpp, Kokoro)
- Implemented modular RAG system with ChromaDB indexing JSON, PDF, and TXT documents
- Integrated VAD, persistent memory, and sentiment analysis for context-aware responses

## Education

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**University of Chittagong** Chittagong, Bangladesh Jan 2017 – May 2023  
**Bachelor of Science** in Electrical and Electronic Engineering