Giri Raju

Hyderabad, India | girirajur023@gmail.com | giriraju45 | giriraju | (+91) 9159391060

Summary

Versatile AI practitioner skilled in machine learning, NLP, and generative models, with a focus on building user-centric, end-to-end solutions that transform research into real-world applications. A process-driven, solution-oriented thinker with a hands-on approach, focused on a product-first mindset and passionate about crafting meaningful AI experiences.

Experience

Hitloop | Machine Learning Engineer

2024/Nov – Present Hyderabad, India

- Led multiple initiatives within a 3-member team to build Neural Speech Synthesis and Voice Cloning systems for Indian languages, focusing on high-quality, expressive, and natural speech synthesis.
- Designed and developed **data and AI workflow pipelines** for an AI-based End-to-End Dubbing Platform, integrating cross-lingual transliteration and user-centric features like session management and parametric audio feature controls to streamline workflows and enhance synthesis quality.
- Developed a real-time, **zero-shot Voice Cloning Platform,** capable of generating high-fidelity voices with just 3 seconds of reference audio, trained for Indian languages.
- Created multiple **Product Demonstrations** for educators, influencers, and content creators in the education and entertainment industry to showcase the platform's effectiveness.
- Authored a product thesis on the Dubbing Platform and thesis accepted at Interspeech 2025, Rotterdam.

AI4Bharat, IIT Madras | Machine Learning Research Engineer

2022/Oct – 2024/Oct - ML Engineer Chennai , India

- Contributed significantly to the **data collection and creation** of 50k+ high-quality synthetic utterances for the Rasa Expressive Speech Synthesis dataset, applying prompt engineering techniques with LLMs, using structured guidelines and few-shot prompts.
- Created **internal applications and tools**, including a **custom audio recording software in Python** (Tkinter, audio libraries), employed in the data collection process of speech data, along with a **text normalization package** for Indian languages, enhancing TTS model accuracy and applicability.
- Developed and trained Text-To-Speech models for Indian languages, achieving an Exp-MUSHRA score of 68.66 from a 42.76 baseline across diverse styles (emotions).
- **Research:** Co-authored **three** research **papers**, which were conducted under the guidance of **Prof. Dr. Mitesh Khapra**.

unScript.ai | Machine Learning Intern

2022/Aug – 2022/Sept Remote, India

- **Implemented pre-processing and post-processing components** for TTS Systems, trained and fine-tuned speech synthesis models for different speakers accessing datasets from AWS S3 buckets.
- **Created a Minimum Viable Product (MVP)** using Gradio Python to demonstrate the trained AI Text-To-Speech models.

VisionNLP.ai | Deep Learning Intern

2021/Dec – 2022/Mar Remote, India

- Completed training sessions on end-to-end ML lifecycle, and built standard projects, including a Spam/Ham Classifier (Naive Bayes) with 95.4% accuracy.
- Created a machine learning technical-focused QnA dataset for model training by collecting data from 7+ website sources by web scraping in Python.
- Led a team in implementing a **conversational AI/chatbot based on the TRANSFORMERS architecture** for technical interviews in Machine Learning using the above-created dataset.

Education

2019/July – 2023/August	**Faculty of Engg and Tech, Annamalai University | BE in CSE (AI & ML)**	CGPA: 9.44 / 10
2019/May	**St' Joseph MHSS | 12th Grade**	80.5%
2017/May	**St' Joseph MHSS | 10th Grade**	98 %

Skills

Technologies	Generative AI, Large Language Models (LLMs), Natural Language Processing (NLP), Retrieval-Augmented Generation (RAG), Audio Processing, Computer Vision, Data Science
Programming	Python, C++ (Intermediate)
Python Packages	HuggingFace (Datasets, Transformers), Librosa, Matplotlib, NLTK, NumPy, OpenCV, Pandas, PyTorch, SciPy, Seaborn, TensorFlow, Tkinter, audio processing libraries.
Platforms	Amazon Web Services (EC2, S3, SageMaker), Google Cloud Platform (Basic Proficiency)
Frameworks & Tools	Git, Gradio, LangChain, Streamlit
Databases & Vector DBs	MySQL, PostgreSQL, Pinecone, Chroma

Publications

Rasa: Building Expressive Speech Synthesis Systems for Indian Languages in Low-resource Settings — INTERSPEECH, Kos, Greece
Praveen Srinivasa Varadhan, Ashwin Sankar, Giri Raju, Mitesh M Khapra. Jun - 2024

Enhancing Out-of-Distribution Performance of Indian TTS Systems for Practical Applications — INTERSPEECH Kos, Greece
Srija Anand, Praveen Srinivasa Varadhan, Ashwin Sankar, Giri Raju, Mitesh M. Khapra Jun - 2024

IndicVoices-R: Unlocking a Massive Multilingual Multi-speaker Speech Corpus for Scaling Indian TTS — NeurIPS Vancouver, Canada
Ashwin S, Srija A, Praveen S V, Sherry T, Mehak S, Shridhar K, Aditi K, Deovrat M, Giri R, Mitesh M. Khapra Sep - 2024

Certifications

Generative AI With Large Language Models Course, By Deeplearning.ai and AWS on Coursera

LangChain and VectorDBs in Production, By Activeloop and Intel - Ongoing

Introduction to Large Language Models, By Google Cloud on Coursera

Deep Learning Specialization, By DeepLearning.ai on Coursera

Data Analytics with Python (Elite), By IIT Roorkee on NPTEL

Introduction to Git and GitHub, By Google Cloud on Coursera

Natural Language Processing with TensorFlow, By Google Cloud on Coursera

Introduction to TensorFlow for AI, ML and Deep Learning, By Google Cloud on Coursera

Projects

Standard Deep Learning Projects - Neural Style Transfer, Transfer Learning and Fine-tuning, SMS Spam-Ham sentence classification, Image Segmentation and Classification.

Stock Price Prediction - Utilized share price data of Tata Motors for numerical analysis and the India-news-headlines dataset for sentimental analysis and implemented an LSTM-based hybrid model to predict stock prices.

Electronic Products Classifier - Trained a product classification model using BERT and SVM, leveraging a dataset of 1500+ product description links (websites and PDFs), scraping, extracting and processing the text to standardize the data for model training.

Exploratory Data Analysis - Conducted in-depth EDA on FIFA-19 and IPL datasets, uncovering patterns and insights through statistical analysis and visualization.