Santhoshini Gongidi

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Education

Carnegie Mellon University - School of Computer Science   **Pittsburgh, PA**
Master of Science in Computer Vision   December 2025

International Institute of Information Technology (IIIT), Hyderabad   **Hyderabad, India**
Master of Science in Computer Science & Engineering by Research *(CGPA: 8.67/10)*   December 2022

Indian Institute of Information Technology (IIIT), Sri City   **Chittoor, India**
Bachelor of Technology with Honours in Computer Science & Engineering *(CGPA: 9.38/10)*   May 2018

Skills

Programming languages & Databases: Python, Javascript, PostgreSQL
Frameworks & Libraries: PyTorch, OpenCV, NumPy, scikit-learn, FAISS, Detectron2, TensorFlow, Flask
Tools & Platforms: Docker, Google Cloud Platform (GCP), Google Kubernetes Engine (GKE), MLflow, GitHub
Artificial Intelligence Expertise: Transfer Learning, Search, OCR, Semantic Segmentation

Work Experience

Micron Technology   **Hyderabad, India**

Senior Engineer, Data Science   October 2023 - November 2023
- Scaled an anomaly detection solution using image morphing and semi-supervised learning techniques, leading to deployment across three use cases and saving an estimated **$5.6 million**.

Engineer, Data Scientist   July 2021 - September 2023
- Enhanced yield selection with a 90% recall for detecting anomalies using instance segmentation.
- Led a team of two to develop **configurable ML inference pipelines** on Google Cloud to build scalable solutions.
- Established domain-relevant feature aggregation methods, earning an internal award and team-wide adoption.

Research Experience

CVIT, IIIT Hyderabad (Advisor: Prof. C. V. Jawahar)   **Hyderabad, India**
Graduate Research Assistant   June 2018 - December 2021
- Devised a multi-head joint training method for ResNet-BiLSTM-CTC handwritten text recognition models, boosting feature extraction efficiency and slashing average error rates by 15% on Latin and 20% on Indic datasets.
- Designed and implemented a real-time zero-shot retrieval engine that enables efficient multimodal search across unseen handwritten documents by leveraging shared latent space training of image and text encoders. Achieved an average top-10 precision of 0.86 for unseen queries in multiple languages.   Demo video
- Developed a large-scale benchmarking dataset for Indic handwritten text, encompassing 10 major languages, and conducted baseline studies to assess inter-language transfer learning efficacy.

CVPR Unit, Indian Statistical Institute (Advisor: Prof. Umapada Pal)   **Kolkata, India**
ML Research Intern   May 2017 - July 2017
- Achieved 97% accuracy with limited training data for offline writer identification in Indic scripts by developing stroke-based clustering approach for feature generation.
- Improvised handwritten stroke features further using autoencoder-based representations, resulting in increasing average accuracy to 93% (Top1) and 99% (Top10) on Latin and Indic datasets.

Projects

Sentiment Analysis for Code-Mixed Tweets   **Chittor, India**
IIIT Sri City   August 2017 - December 2017
- Proposed a sub-word hierarchical BiLSTM model for sentiment classification on Hindi-English code-mixed tweets, surpassing previous state-of-the-art LSTM model by a substantial 16.74% margin.

Publications

Santhoshini Gongidi, C V Jawahar, Handwritten Text Retrieval from Unlabeled Collections, CVIP 2021
Santhoshini Gongidi, C V Jawahar, INDIC-HW-WORDS: A Dataset for Indic Handwritten Text Recognition, ICDAR 2021
Upendra Kumar, Vishal Singh Rana, Chris Andrew, Santhoshini Reddy, and Amitava Das, Consonant-Vowel Sequences as Subword Units for Code-Mixed languages, AAAI 2018
Chris Andrew, Santhoshini Reddy, Viswanath Pulabaigari, Umapada Pal, Text Independent Writer Identification for Telugu Script using Directional Filter based Features, ICDAR 2017