Sreenidhi Iyengar M

Los Angeles, California, USA | 213-554-2002 | munimadu@usc.edu | www.linkedin.com/in/sreenidhiiyengarm

Education

University of Southern California - Master of Science in Computer Science: 4/4 — Los Angeles, USA
Coursework : Database Systems, Algorithms, Machine Learning — *May 2022–Present*

Sri Indu College (SICET) - Bachelor in Computer Science and Engineering: 8.97/10 — Hyderabad, India
Coursework: Probability and Statistics, Data Warehousing and Mining, Data Structures, Cloud Computing — *Aug 2016–Sep 2020*

Publications

- Machine learning approach to predict phase and strength of aluminum containing refractory high entropy alloys (under review)
- Artificial Intelligence approach to predict elevated temperature cyclic oxidation of Fe-Cr and Fe-Cr-Ni alloys **(2022)**
- Audio COVID-19 data Analysis employs Sentimental Analysis and Topic Modeling to derive customer insights for an Org **(2021)**
- Comprehensive Research on Diagnosis of Machine Learning Method Prediction of Diabetes Mellitus **(2020)**

Experience

Graduate Student Researcher - Information Sciences Institute USC, Los Angeles — Sep 2022–Present
- Actively conducting research under **Prof. Michael Pazzani** to decipher the dynamics of model prediction in highly sensitive and imbalanced classification use cases using XAI(XRAI, SmoothGrad, Grad-CAM) techniques. Goal is to develop deep learning systems that produce helpful explanations of image classification focused on replicating the explanations of domain experts.

Data Science Consultant - Tvashtaa Data Solutions, Hyderabad — May 2021–May 2022
- Responsible for analysis of multiple parameters of production and breakdown. Implemented various time series forecasting techniques (ARIMA, ARIMAX, Prophet, HW) based on parameters such as ACF, PACF, etc. Predicted the production capacity to ensure the client met quarterly production targets. Developed dashboards for all production-related parameters in Power BI.
- Extracted, merged, and cleaned the customer chat transcripts. Applied techniques like LDA, NMF, and various dictionary-based methods to get the topics for the data. Provided insights and other required analyses from the model results to clients.

Python Developer - eWARN SYSTEM, Rourkela — Sep 2020–Apr 2021
- Designed and implemented the eWarn voice recognition system for employee authentication. Analyzed and fine-tuned Neural Speaker Embedding System model on employee voice data, optimizing login time by 1.5 times over the prior system.
- Implemented a desktop GUI to enable retraining and fine-tuning the model and adding and deleting records of voice data.

Deep Learning Intern - Tata Consultancy Services (TCS), Hyderabad — Feb 2020–Sep 2020
- Investigated various GAN (GAN, DCGAN, WGAN, WPGAN) topologies, generated synthetic image data as additional train and valid sets for the existing classification model. Fine-tuned and improved model stability, classification accuracy by 4%.
- Collaborated with the NLP team and led the development of a deep learning framework for transcribing, translating and analyzing sensitive voice call data related to COVID-19 healthcare of TCS employees. Automated the generation and storing of sentiment analysis reports of each call to be further evaluated, which improved the efficiency of healthcare services by 11%.

AI Developer - QuAIT, Hyderabad — Dec 2019–Sep 2020
- Built a Deep learning framework over Faster R-CNN to semantically segment photos, recognize and return up to 20+ objects. Fine-tuned for human object extraction, improved accuracy to 97.64%, an 8% increase over the existing client framework.
- Developed end-to-end projects on computer vision as part of a project-based AI induction internship in Deep Learning. Successfully trained 350 students, impacting 64% of students (undergrads) choosing Machine Learning as their career path.

Projects

- **Highly Imbalanced Image Classification - ISI, USC**: Explored 8+ techniques to combat imbalanced classes under the supervision of **Prof. Michael Pazzani**. Built and fine-tuned various CNN (VGG16,19, MBNv2, ICPv3) models to counter low-frequency image classes in the data. Achieved an F1 Score of 98.5% on test set, an 35% increase over baseline models.
- **Student Document Manager and Plagiarism Evaluator:** Estimated document similarity using syntactic and semantic analysis. Applied NLP techniques like TF-IDF, Word Embeddings, and Transformers (BERT, RoBERTa on Hugging Face) to evaluate similarity in assignment submissions. Achieved 76% accuracy and aided in three times faster assignment evaluations.

Technical Skills

ML Frameworks: Sklearn, Pycaret, Boosting & Tree techniques, Keras, Tensorflow, Pytorch, HuggingFace, NLTK, Spacy, OpenCV, Flair, Albumentations, Optuna, AutoML, Statsmodels, MLfLow, AWS(SageMaker, Rekognition, IAM, S3, MLOps, AI Services), GCP
Data Analysis and Visualization: ETL, Web scraping, Numpy, Scipy, Pandas, tqdm, Dask, Matplotlib, Plotly, Seaborn, PowerBI
Databases and Web Tech. : MySQL, PostgreSQL, Snowflake, Redis, MongoDB, Streamlit, Flask, Django, JS, REST, HTML, CSS
Languages: Python, SQL, Java, C++ || **Tools**: *Git*, *Github*, *Docker*, *Kubernetes*, *Vim*, *Eclipse*, *Jupyter*, *Jira*, *Trello*

Leadership & Awards

- **Associate** : Cultural and Technical Fest
- **Contributor** : Streamlit open source - community
- **Winner** : Microsoft Udacity Technology Scholarship
- **Management Head** : Campus Placements Department
- **Instructor** : "MISSION CODE" by Govt. of Telangana
- **Certificate of Merit** : ML contest, Aakaar IIT Bombay