ASHA GUTLAPALLI

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY **Atlanta, Georgia**
Master of Science in Analytics *Expected Dec 2022*

- **Track:** Data Science (C Track)
- **Coursework:** Machine Learning, Deep Learning, Computer Vision, Analytics Modeling, Regression Analysis
- **GPA:** 3.85/4.0
- **2022 Summer Research:** Working under professor Ling Liu on DNN optimization – Lottery Tickets

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY **Chennai, India**
Bachelor of Computer Science *Jun 2020*

- Coursework: AI, Data Science and Big Data Analytics, Data Mining, NLP, Data Structures, Design and Analysis of Algorithms, DBMS, Cloud Computing
- Grade: 90%

SKILLS

Programming: Python, R, SQL, C, C++, Java, HTML, CSS, Javascript
Databases: MySQL, SQLite, MongoDB
Frameworks: TensorFlow, Keras, PyTorch, Scikit-learn, Django, Flask, AWS, MLFlow, Hadoop, Pig, Hive, Spark, Hbase, StreamLit
Data Visualization: Tableau, Power BI
Modeling Techniques: Machine Learning, Deep Learning, Regression Analysis, Supervised Learning, Unsupervised Learning, Time Series, Generative Modeling

EXPERIENCE

DELTA AIR LINES **Atlanta, United States**
Data Scientist Intern *May 2022 – Aug 2022*

- **Intelligent Taxi Out Estimator**: Implemented and deployed a Light Gradient Boost model for taxi out time prediction with FlyerMLOps on AWS. Overall, the model estimates taxi-out times within +-5 minutes 73% of the time – 12% more (31% better) than dispatcher estimates and 11% more (29% better) than AJ table over 3 months. Using LGBR model estimates results in 43.4K gallons (69%) saved compared to dispatcher estimates and 15.8K gallons (44%) saved compared to AJ table overestimates over 3 months. ITOE reduces taxi-out fuel overspend and increases ETA accuracy.
- **Service Difficulty Report Classifier:** Implemented Grad-CAM for neural network explainability of the distilled BERT model. Compared and analyzed the performance of Machine Learning models and Deep Learning models for SDR classification.
- **Crew Shortage:** Implemented Temporal Fusion Transformer on a multi-GPU setup. TFT forecasts demand and supply of crew to minimize shortage.

GEORGIA INSTITUTE OF TECHNOLOGY **Atlanta, United States**
Graduate Teaching Assistant *Jan 2022 – May 2022*

- TA for the course CS 3630: Intro to Perception and Robotics taught by Frank Dellaert and Seth Hutchinson.
- Developed python assignments, quizzes, and questionaries with Frank Dellaert.
- Conducted office hours to assist 350+ students for 3 hours a week.

NIMBLEBOX.AI **Chennai, India**
Fastest growing AI Startup in the Silicon Valley revolutionizing the way we work on AI projects.
Machine Learning Engineer Intern *May 2021 – Aug 2021*

- Developed AI solutions for Intel that speed up their internal business processes.
- Populated the platform's explore page with Computer Vision and Natural Language Processing projects with a focus on GANs and Transformers to attract and engage customers.

INTROTUCE PRIVATE LIMITED **Tiruchirapalli, India**
World's first Experiential Entertainment Platform, developing state of the art technology in deep learning and edge computing to build Nex2me based out of IISc, Bangalore.
Deep Learning Engineer Intern *Sep 2020 – Dec 2020*

- Implemented Image Classification, Segmentation, Composition, and a variety of Computer Vision applications and optimization techniques for edge devices.
- Managed a team of annotators for image dataset (Big Data) preparation to facilitate a multi-purpose model.

PROJECTS

LINK PREDICTION FOR MOVIE RECOMMENDATION *May 2022*

- Developed different graph-based models for recommending movies in Netflix to users based on their predilections.
- Executed various techniques as simple as Neural Collaborative Filtering, embedding with machine learning models like Node2Vec and Metapath2Vec, a GraphSAGE algorithm called HinSAGE, and Inductive Matrix Completion methods like IGMC and IMC-GAE.
- IMC-GAE outperforms all other algorithms with a precision of 0.89, recall of 0.97, and accuracy of 0.87.

NOTRASHBOT *April 2022*

- Designed a Mask R-CNN model with ResNet-50 backbone and zero shot capabilities interfaced with Arduino for real time trash detection.
- Back tested on the TACO dataset, the robot visually distinguishes trash from other materials and, depicts its confidence of interpretation via LED traffic lights.
- It estimates the dimensions of the object to determine the best grasping position.

SEMANTIC SIMILARITY AND TOXICITY DETECTION IN QUORA QUESTION *Nov 2021*

- Designed a ML pipeline for toxicity detection followed by sentence similarity on text data.
- It flags offensive questions and informs the presence of similar questions asked by users on Quora.

STYLEGAN2-ART *Jun 2021*

- Curated an abstract image dataset to train a StyleGAN2-ADA model and generate original artwork.
- These generated images are synced with audio to create an audio-reactive music video.

NL-IMAGES *May 2021*

- Implemented CLIP, a Cross-Modal-Search model to predict the similarity between given images and text.
- It is capable of image-text, text-image, image-image, and text-text search.

IMAGE COMPOSITION GAN *Sept 2020*

- Developed a GAN model that harmonizes unnatural composite images by translating the domain of the foreground image to that of the background image.
- It changes properties in images like luminosity, color, and smoothness for consistent blending.

DRUG RECOMMENDATION SYSTEM USING BERT *Jun 2020*

- Built a drug recommendation system using BERT that suggests top-rated drugs to patients based on their conditions.
- Users can also read existing reviews and submit their feedbacks on drugs.

ASPECT BASED SENTIMENT ANALYSIS USING BI-GRU *Feb 2020*

- Developed a sequential Bi-GRU model on the SEMEVAL 2015 laptop dataset.
- It performs Aspect Based Sentiment Analysis on reviews where the model classifies the aspect category and polarity.

BANK CUSTOMER CHURN PREDICTOR *Oct 2019*

- Implemented a Deep Neural Network and trained it on the Kaggle Customer Churn dataset.
- It predicts which customers are most likely to churn at a bank.

CERTIFICATIONS

- **Stanford University:** Machine Learning
- **DeepLearning.ai:** Neural Networks and Deep Learning • Convolutional Neural Networks • Sequence Models • Build Basic Generative Adversarial Networks (GANs) • AI for everyone • AI for Medical Diagnosis • Introduction to TensorFlow in Artificial Intelligence, Machine Learning, and Deep Learning • Convolution Neural Networks in TensorFlow • Natural Language Processing in TensorFlow.

ACTIVITIES

- Kaggle Expert (2x)
- Guest speaker at “Pie & AI: Bangalore – EDA & Kaggle” organized by the DeepLearning.ai community.
- Presented a webinar on “How to get started with Data Science” at “Celebrating Women in Technology” organized by the IEEE SB JEC.
- Member of the Institute of Engineering and Technology (IET)

ACHIEVEMENTS

- Awarded ‘Outstanding Performance’ for Technical Presentation at SRM IST.
- Conferred the title ‘Yoga Natchathra’ by the Youth India Yoga Federation.
- Secured 3rd place at the National Yoga Championship in India.
- Secured 1st place at the State Level Karate Championship in India.