

ASHA GUTLAPALLI

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY Master of Science in Analytics

Atlanta, Georgia
Expected Dec 2022

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

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY Bachelor of Computer Science

Chennai, India
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 Languages: Python, R, SQL, Java, C++, C, HTML, CSS, Javascript

OS: Linux

Databases: MySQL, SQLite, MongoDB

Frameworks: TensorFlow, Keras, PyTorch, Scikit-learn, Django, Flask, StreamLit, AWS, MLFlow, Hive, Spark

Developer Tools: Git, Docker, VSCode, Jupyter Labs, Spyder, PyCharm

Modeling Techniques: Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Regression Analysis, Supervised Learning, Unsupervised Learning, Time Series, Self-Supervised Learning, Generative Modeling

Data Visualization: Tableau, Power BI

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:** Built 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 questionnaires 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)
- Participated in a 72-hour RoboTech Hackathon 2022 at Georgia Tech

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.