



EDUCATION

- **University of Wisconsin-Madison** Madison, WI
Master of Science in Computer Science Jan, 2022 – Dec, 2023
- **Indian Institute of Technology Delhi** New Delhi, India
Bachelor of Technology in Mechanical Engineering July, 2014 – May, 2018

WORK EXPERIENCE

- **1MG: A Healthcare platform** India
Data Scientist Aug 2020 - Dec 2021
 - **Inventory Optimization:**
 - * Designed ensemble LSTM architecture to forecast demand of 100k+ products across 10 diverse inventories
 - * Built Simulation Engine to mimic diverse future demand scenarios and choose product-level optimal strategy
 - Collaborated with **Harvard Medical School**, successfully predicted 5-day ahead Covid-19 cases for 80+ regions

Skills: Deep Learning, Model Deployment, production-grade code, Feature Engineering, Sequential modeling, Dataset creation, Preprocessing, AWS, Git, Python

- **American Express** India
Data Scientist July 2018 - Aug 2020
 - **Revenue Model:** Designed **novel stacked machine learning architecture**, performance improved by 30%
 - **Mixup:** Modified Facebook-authored classification based **Data augmentation** method for a regression task
 - **Staggered Eligibility:** Enhanced offer presentment framework by maximizing profit under budget constraint
 - **Covid-19 Recalibration:** Independently tailored all models under team's purview to adjust for behaviour shift

Skills: Deep Learning, Sequential Modeling, Dataset creation, Preprocessing, Financial Data, Ensemble techniques, Statistics, Data Analysis, Python, Hadoop, SQL

- **Internship at Maroon.ai:** Deep Learning, NLP, Neural Networks, Text classification, Clustering, Web scraping

RESEARCH EXPERIENCE

- **Multilabel prediction of deterioration among hospitalized children** UW Madison
Research Assistant in Prof. Anoop Mayampurath's Lab Fall 2022 - Present
 - Built a **first-ever** multiple types of deterioration predictor for all hospital locations i.e., Ward, Emergency, ICU
 - Leveraged Multi-Task machine learning and implemented a multi-head LSTM architecture, improved AUC by **5%**
 - **Publication:** Accepted to be presented at the *Society of Critical Care Medicine 2024*

Skills: Deep Learning, MultiTask Learning, Sequence Modeling, Healthcare, Clinical Data, Hyperparameter Optimization, Explainable AI, Feature Importance

RELEVANT COURSEWORK

- **Master's:** Advanced Natural Language Processing (NLP), Foundation Models, High-Performance Computing, ML
- **Bachelor's:** Advanced Machine Learning, Deep Learning, Foundations of Data Science, Statistics, Linear Algebra

PROGRAMMING SKILLS

- **Languages:** Python, Java **Technologies:** Pytorch, Keras, Hugging Face, NLTK, Scikit Learn, Git

PROJECTS

- Fine-tuned **DistillBERT** for Named Entity Recognition, used embeddings to perform query-based document search
- Implemented FAISS to extract relevant sentences from input **text**, and utilized pre-trained **LLM** for summarization
- Tailored Transformer-based **LLM** T5 to predict SQL query given the query in Natural language, and Database schema
- **Multi-modal learning:** Combined **Text** and numerical data using CNN-LSTM model to predict Stock Movement
- Designed Convolutional Neural Network in parallel in **C++** using **CUDA**, achieved 10x speedup in inference time
- Built a custom U-Net architecture for image segmentation of Chest X-ray **images**, improving detection of Covid-19
- Frame-wise Recognition of Dominant Speaker in Youtube videos through fine-tuning a pre-trained Deep CNN model

Skills: Deep Learning, NLP, Text Data, Generative Modeling, Foundation Models, Transformers, LLM, Multimodal learning, CNNs, Optimization, Fine-tuning