Prasanth Dwadasi

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EDUCATION

Master of Science in Software Engineering, Northeastern University, Boston, MA — Expected **April 2023**

Coursework: Data Science, NLP, Deep Learning and Reinforcement Learning, Big Data and Intelligence Analytics, Algorithms — GPA:**3.8**

SKILLS

Languages:	Python, C++, C, R, Java, JavaScript
Machine Learning:	Regression, Time Series, Classification, Clustering, Recommender Systems, Statistics
Deep Learning:	Transformers, CNN, LSTM, GRU, Reinforcement Learning, GAN
Libraries and API:	TensorFlow, Keras, Pytorch, Spacy, Scikit Learn, XGBoost, OpenCV, Statsmodels,Tableau
HPC Framework:	Cuda, MPI, OpenMP, Slurm, GPGPU Programming, Linux, Shell Scripting, Distributed Computing
Bigdata:	GCP, AWS, FastAPI, Docker, MySQL, Airflow, PySpark, ElasticSearch, Hadoop

WORK EXPERIENCE

Graduate Research Assistant – Northeastern University *[C++, Slurm, MPI, Linux, Tensorflow, Pytorch]* Jan 2022 – Present

- Facilitated Distributed Computing services to university professors and researchers
- Benchmarked ML algorithms implemented with daal4py against scikit-learn in a distributed environment
- Decreased wait times for resource allocation by 15% by predicting wait times in slurm

Machine Learning Engineer – TCS, India *[Python, NLP, Spacy, Transformers, Elastic search]* June 2019 - Aug 2021

- Worked on a Project (Clinical Codes Detection from patient EMR chart) that extracts key taxonomies from clinical documentation and proposes the ICD and SNOMED codes using NLP techniques
- Modeled Binary Classifier to classify records into clinical and non-clinical text using Naive Bayes Classifier, attained 96% accuracy
- Trained a multi-class classifier to classify the clinical text into different clinical taxonomies using SVC, achieved 95% accuracy
- Developed a custom-trained semantic dependency parser model to boost accuracy by 40% in detecting medical parameters

Computer Vision Engineer – TCS- NextGen R&D, India *[Pytorch, OpenCV, Yolo, CNN, TensorFlow, GAN]* Sep 2018 - Aug 2019

- Developed an application that tracks users from multiple queues and recommends ideal queue utilizing users' historical average time leading to a decrease in customer wait time by 25%
- Improved night metric scores by 10% for a trespassing detection model using advanced image processing
- Enhanced classification rates by 20% for detecting defective capacitors by using GAN for data generation and augmentation
- Implemented an object detection app that learns person's characteristics from limited images and tracks them across cameras

Data Analyst - TCS, India *[Python, SQL, Hive, Statistics, Excel, Airflow, Machine Learning]* June 2017 - Aug 2018

- Working with Demand Planning & Forecasting team to forecast the demand for all medicines at a fulfillment center level
- Identified the probable out-of-stock scenarios of the products by creating a robust model which increased the first fill by 3%
- Worked with the data engineering team developing migration jobs on Airflow to shift analytics tables from Redshift to HIVE

HPC Engineer – Intel (TCS), India *[C++, Cuda, MPI, SyCL, DPC++, Slurm, Git]* Aug 2016 - June 2017

- Optimized applications performance by 1500% using advanced multi-threading & multiprocessing libraries Cuda and MPI
- Benchmarked CFD Solver against modern programming frameworks such as Cuda, DPC++, SyCL, OpenCL, and AVX- 512 on emerging Intel Xeon architecture
- Provided SME support to users through community channels on topics like C++, MPI, OpenMP, Distributed Systems, and Cuda

ACADEMIC PROJECTS

Sequence to Sequence Translation from English to Hindi *[Transformers, LSTM, GRU, RNN, TensorFlow]* May 2022 - Jun 2022

- Engineered a Transformer with eight attention heads with semi and cross-attention and achieved a BLEU score of 35
- Implemented a generator method to load massive datasets into a low ram system decreasing ram required by 300%
- Compared the outputs and performances of RNN, semi-attention (Luoc's and Bahdenau's), and transformer networks

Business Meeting Summarization *[Bigdata, BERT, GCP, ETL, FastAPI, Airflow, AWS, SQL]* Jan 2022 - Mar 2022

- Created a Frontend using StreamLit and used JWT tokens for signup and login
- Orchestrated ETL pipelines from loading, processing, and transcribing the input videos
- Established API Endpoints using FastAPI to provide the model as a Service
- Pipelined the entire flow using GCP cloud functions and cloud triggers saving intermediate results in Firestore