Jaldhir Trivedi

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Education

Carnegie Mellon University — Pittsburgh, PA

Master of Science in Mechanical Engineering (Concentration: Machine Learning) GPA: 4.0/4.0 — *May 2022*

Master of Science in Engineering & Technology Innovation Management (ETIM) GPA: 3.96/4.0 — *Dec 2021*

Relevant coursework: Machine Learning, Deep Learning, ML with Large Datasets, Computer Vision, Natural Language Processing, Product Management, Robot Dynamics

Indian Institute of Technology Gandhinagar (IIT Gandhinagar) — Gandhinagar, India

Bachelor of Technology in Mechanical Engineering (with Honours) GPA: 8.1/10.0 — *Aug 2018*

Experience

Amazon Inc. — Bellevue,WA

Software Development Engineer — *June'22 – Present*

- Built RNN GRU **quantile regressors** to predict traffic data for newly onboarded games to pre provision resources
- Limit concurrency of **Sagemaker** and **Athena** jobs using Lambda State Machine jobs API calls
- Written **AWS Lambda** functions written in **Python** and **Javascript** which establishes **microservice** business logic
- Leveraged **CloudFormation** written in **Typescript** to create dashboarding costs across AWS accounts

LeanFM Technologies — Pittsburgh,PA

Data Science Intern — *May'21 – Aug'21*

- Developed RNN, LSTM & GRU for **predictive modeling** of air temperatures in HVAC systems with 2°F error

Carnegie Mellon University — Pittsburgh,PA

Graduate Teaching Assistant: 24789- Deep Learning & 24787- Machine Learning — *Jan'21 - May'22*

- Undertook recitations for students' supplemental learning, organized Office Hours, designed and graded assignments

Hindustan Petroleum Corporation Limited — Bhopal & Ahmedabad, India

Officer- Sales & Technical Services, Lubricant Oils — *Aug'18 – Sept'20*

- Managed a portfolio that brought average annual turnover of $3 Million and profit of $500,000 for the corporation

Projects

LaplaceNN: Temperature field prediction using CNN Unet architecture — Pittsburgh, PA

Supervisor: Dr. Amir Barati Farimani, Carnegie Mellon University — *Jan'22 – May'22*

- Used Laplace equation to generate training and test dataset to undertake data driven model training
- Created **Unet CNN** architecture for a 32x32 cavity that yielded 0.5°C average error on held out dataset

Question Answer Generation system for Wiki articles using a rule based workflow — Pittsburgh, PA

Supervisor: Dr. Alan W. Black, Carnegie Mellon University — *Jan'22 – May'22*

- **NLP** System that can crawl through a given article and frame 40 questions and independently answer them
- Used **docker** to package the app into a container that runs python environment to run **spaCy** and **NLTK**

Model Pruning for a deep CNN while retaining near perfect accuracy — Pittsburgh, PA

Course Instructor: Dr. Virginia Smith, Carnegie Mellon University — *Sept'21 – Dec'21*

- Used **Tensorflow** to create magnitude based pruning for a CNN with 592k trainable parameters
- Achieved 97% model sparsity with the loss of accuracy restricted 2 points

Biomechanics with Deep Learning & Inertial Measurement Units — Pittsburgh, PA

Course Instructor: Dr. Amir Barati Farimani, Carnegie Mellon University — *Feb'21 – May'21*

- Wrote pipeline in **Pytorch** trains LSTMs to predict Ground reaction forces using IMU data
- Used **Ray tune** to run ASHA scheduler scheme to **tune hyperparameters** to get mean error of 0.08% body weight

Achievements

- **Rewards & Recognition** (Q4 FY 2018-19) for Outstanding Performance, Hindustan Petroleum Corporation
- **IIT Institute Funding** (consecutively in 2016, 2017) for research at ISCTE, Lisbon & Clemson University, SC
- **Dean's List** (Fall'16 & Fall'17) for Outstanding Academic Performance, IIT Gandhinagar

Technical Skills

Programming: Python, C++, JavaScript, TypeScript, MATLAB, SQL, CSS, HTML, Java
AWS: DynamoDB, S3, Sagemaker, Athena, Cloudformation, EC2, EBS, Lambda, Eventbridge, SNS, Glue
Tools: Docker, SaS Enterprise Miner, Tableau, Figma, Databricks, NLTK, spaCy, Git, Confluence, Jira
Libraries: Pytorch, TensorFlow, Apache Spark, Keras, OpenCV, OpenAI Gym, Ray tune, Matplotlib, pandas, SciPy