Aditi Tripathi

karasuno7 | in/tripathi-aditi
adititripathi694@gmail.com | 412.708.7569 | https://karasuno7.github.io

SKILLS

PROGRAMMING

- Python
- Java
- C
- Shell

Familiar:
Scala • SQL • Go

TOOLS

Azure • GCP • AWS
Spacy • Sckit-Learn
PyTorch • TensorFlow
OpenCV • Tesseract • Matlab
Terraform • Spark
Protobuf • MongoDB
Git • Bash/Zsh • Linux

EDUCATION

CARNEGIE MELLON UNIVERSITY

Masters in
Electrical and Computer Engineering
Dec 2020 | Pittsburgh, PA

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY

Bachelors in
Electrical Engineering
May 2016 | Bhopal, India
GPA: 9.06 / 10.0

COURSEWORK

GRADUATE

11785: Deep Learning
10601: Machine Learning
15319: Cloud Computing
18793: Image and Video Processing
18613: Foundations of Comp. Systems
15640: Distributed Systems
18645: How to write Fast-code
17681: Data Structures and Algorithms
18845: Internet Services

OTHERS

Data Analytics (Coursera)
Mining Massive Datasets (Stanford)
Blockchain Use Case (CMU)
Udacity Deep Learning Nanodegree

PROJECTS

CARNEGIE MELLON UNIVERSITY

Aug 2019 – Dec 2020 | Pittsburgh, PA

- **Multimodal Visual Question Answering System** A question answering system using multistage fusion for user's photo albums and photo metadata to enable multiple-choice question-answering and providing grounding photos based on the user's question.
- **MyTorch** Developed a variation of PyTorch Library with computational graph functionality for automatic differentiation, MLP, 1D/2D CNN, and RNN networks with activation functions and ADAM/SGD optimizers.
- **Listen-Attend-Spell** Implemented a speech-to-transcript generation model using a combination of 1D CNN and pyramidal BiLSTMs; character level LSTM-decoder with Attention and LockedDropout, to achieve a Levenshtein Distance of 17.7 on Librivox dataset and top 11% on Kaggle Leaderboard.
- **Implemented an RL Q-Learning algorithm** for the mountain-car environment with linear approximations and epsilon-greedy strategy for action selection.
- **Analyzed the Twitter social graph** by implementing the PageRank algorithm in Spark (Scala) using RDDs and DataFrame by performing iterative processing.
- **Big Data Analytics with MapReduce** Processed dataset of a whole month's worth of Wikipedia traffic log (more than 120 GB) to analyze current popular events using robust OS independent parallel algorithms running as MapReduce jobs on AWS EMR cluster.
- **Two-phase Commit for Group Photo Collage Application** Implemented 2-Phase commit for creating a photo-collage for users distributed across different geographical locations.

EXPERIENCE

DATA SCIENTIST INTERN (REMOTE) | Boeing

June 2020 - August 2020 | Bellevue, WA

- Optimized image-stitch code pipeline using optical character recognition to be x4 faster.
- Developed 2D-drawing airplane-part segmentation code pipeline to use as an input in part-price prediction using Hierarchical Density-Based Spatial Clustering with Noise.
- Experimented with Convolutional Neural Networks for part similarity search using deep metric learning .

GRADUATE RESEARCH ASSISTANT | Stern Research

Oct 2019 - Dec 2019 | Pittsburgh, PA

- Created LIDAR data management pipeline (massive point cloud dataset); from spatial database population in PostgreSQL to displaying raster in a 3D local scene using GIS (as a part of Allegheny General Hospital's Aerial Noise Modelling Project).

RESEARCH CONSULTANT | WorldQuant | Part-time

Dec 2018 – Jul 2019 | Remote, India

- Developed new alpha strategies from time-series analysis and using online machine learning methods for real time market sentiment data over CAPEX announcements.

CI DESIGN ENGINEER | L&T-Mitsubishi Hitachi Power Systems

Jul 2016 – Nov 2018 | Chennai, India

- Experimented with a neural network based wall temperature prediction model given fluid pressure, fluid temperature and heat flux with prediction accuracy of 92% for the experimental data.
- Developed control system logics for the coal-flow and vibration monitoring assembly based on various sensor inputs from furnace flame detector's vision system.
- Coordinated with cross-functional Indo-Japanese team and created RFQs for prospective vendors for their computer hardware and software products, and recommended the system that best met the design requirements.