Kshitij Ingale

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SKILLS

Programming Languages: Python, SQL, Bash **Programming Tools**: Tensorflow, Keras, Scikit-learn, AWS, GCP, Git

EXPERIENCE

Artificial Intelligence Fellow   **Jan 2019 - Present**

Insight Data Science Silicon Valley

- Designed training framework for image compression using Generative Adversarial Networks on AWS EC2 instances
- Engineered encoding and quantization factors in compression to find optimal configuration of the parameters
- Integrated arithmetic encoding for image latent factors decreasing size of compressed binary file by 70%
- Experimented with training dataset size to observe 20% improvement in performance for thrice the size of dataset

Graduate Researcher - Master's Research Thesis   **Jan 2018 - Dec 2018**

Carnegie Mellon University in collaboration with Air Liquide Frankfurt R&D center

- Devised framework for data driven modeling for temperature profile prediction in collaboration with Air Liquide
- Built exploratory data analysis and model training pipelines for time series data corresponding to different processes
- Developed time series regression models based on ARIMA with exogenous variables, ALAMO and neural network
- Evaluated models based on relevant metrics to account for spatial and temporal complexities within the reactor data

PROJECTS

Deep Reinforcement Learning for KUKA Simulated Robotic Arm and OpenAI Gym

- Trained simulated Robotic arm for manipulation task using reinforcement learning algorithms like PPO and DDPG
- Implemented model free learning like DQN and policy gradient techniques like A2C for OpenAI Gym environments

Task Oriented Stack Overflow Assistant Chatbot

- Generated word embeddings for Stack Overflow data using StarSpace to be used for task oriented dialog model
- Deployed Flask app for Stack Overflow queries chatbot augmented with pretrained conversational model

Named Entity Recognition

- Analyzed Bidirectional LSTM network using Tensorflow for Twitter Named Entity Recognition dataset
- Incorporated word2vec embeddings to observe 20% improvement over random initialization yielding F1 score of 0.61

Recommendation System using Google Cloud ML Engine

- Worked on feature engineering and preprocessing pipeline using Google BigQuery and Dataflow for Kurier news data
- Developed hybrid neural network based system using collaborative filtering features with content based model

Deep learning specialization with deeplearning.ai

- Convolutional Nets: Object detection for drive.ai dataset using pretrained model based on YOLO algorithm
- Sequential models: Trigger word detection using GRU based Recurrent Neural Networks in Keras

Marketing Campaign Outcome Prediction

- Designed data preprocessing and exploratory data analysis framework for bank marketing campaign dataset
- Examined models based on logistic regression, SVM and random forests to obtain a F1 score of 0.94

EDUCATION

Carnegie Mellon University (CMU) | Pittsburgh, PA   **Dec 2018**

Masters of Science in Chemical Engineering (Focus on Machine Learning and Data-driven modeling)
Relevant Coursework: Deep Reinforcement learning & Control, Machine Learning for large datasets

Indian Institute of Technology Bombay (IIT Bombay) | Mumbai, India   **May 2017**

Bachelor of Technology in Chemical Engineering