Rahul Pande

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OBJECTIVE

Seeking full-time opportunities from May 2020 in the field of Data Science and Analytics with focus in Machine Learning and Statistics

EDUCATION

- **Worcester Polytechnic Institute (WPI)** | Worcester, MA — May 2020
  Master of Science, Data Science — GPA: 3.88/4.0
- **Vishwakarma Institute of Technology (VIT, Pune)** | Pune, India — May 2015
  Bachelor of Technology, Electronics and Telecommunication — GPA: 8.59/10

GRADUATE COURSEWORK

Statistical Learning, Deep Learning, Non-Linear Dimensionality Reduction, Big Data Management, Math Foundations

SKILLS

Programming: Python, R, SQL, Java **Technologies:** Hadoop, Spark, Redshift, Tableau, D3, MongoDB
Development Environments: Tensorflow, Keras, scikit-learn, numpy, pandas, matplotlib, slurm (HPC)

PROJECTS

- **Dimensionality Reduction of Images**, WPI | Worcester, MA — December 2019
  - Reduced image dimensionality from 116412 to 16 by fine tuning VGGFace2 network on CelebA data (Celebrity Attributes Dataset) and predicted gender with 88% accuracy
  - Applied techniques like Kernel - PCA, ISOMAP, ICA to approximate data onto a low dimensional manifold
- **Music Generation with Neural Networks**, WPI | Worcester, MA — April 2019
  - Synthesized music sequences (MIDI notes) with deep learning, which outperformed $\sqrt{n}$ randomized real sequences
  - LSTM implementation predicted next n notes given a sequence of real notes, while the GAN implementation generated note sequences from random noise; Implemented using Tensorflow and Keras
- **Yelp Ratings Analysis**, WPI | Worcester, MA — December 2018
  - Clustered user reviews of restaurants to breakdown overall rating into food rating and ambience rating, enabling users to make better informed decisions on which establishments to visit for a particular occasion
  - Used NLTK library to tag Part of Speech (POS) and perform k-means clustering on TF–IDF matrix

EXPERIENCE

- **Data Science Intern**, National Fire Protection Association | Quincy, MA — June 2019 - December 2019
  - **Geospatial Analytics:** Geocoded 150M+ addresses using Spark, Lucene and libpostal to analyze incident trends and define response boundaries for fire stations
  - **Software Engineering:** Deployed geocoding/reverse-geocoding APIs using Docker to facilitate consumption of services. Achieved 70% increase in speed with median distance <1 mile from Google's Geocoding API
- **Graduate Researcher**, Takeda Pharmaceutical | Cambridge, MA — January 2019 - May 2019
  - Large scale deep learning on UK Biobank actigraphy and phenotype dataset (500K subjects) using Tensorflow
  - Achieved f1 score of .78 and 34.8 rmse in predicting insomnia and age respectively from the actigraphy data using multitask learning with 1D Convolutional Neural Network (CNN) and Long-Short Term Memory (LSTM) networks
- **Academic and Research Computing Lab Assistant**, WPI | Worcester, MA — August 2018 - June 2019
  - Experience with job scheduling on High Performance Computing (HPC) clusters; Worked with Northeast HPC group to develop and maintain website for (NSF Award Number: 1659377) to improve its ease of use (necyberteam.org)
- **Product Analyst**, Vuclip India Pvt. Ltd. | Pune, India — April 2016 - June 2018
  - **Complaints Prediction:** Developed a Random Forest model to predict if a user will complain with cross validation recall of 0.79; preemptively decreased complaints from 11% to 7%, avoiding SLA violations and hefty penalties
  - **Content Recommendation:** Formed user clusters (k-prototype) based on the type and amount of content consumption and then recommended content based on collaborative filtering
  - **Data Engineering:** Authored numerous Apache Airflow data pipelines to replace cron scripts which significantly reduced database locks, failures and execution time; Improved workload management on multiple servers

ACHIEVEMENTS

- Developed the official Android app for VIT college, Pune; Second rank in on-spot android app development competition
- Awarded INSPIRE scholarship (Govt. of India) for being in the top 1 % students in HSC Examination (Class 10+2)