Prathmesh Savale

https://prathsoo7.github.io/ • https://github.com/prathsoo7 • prathmesh.savale@gmail.com • +91 8087744932

Experience

Kiewit Corporation — Bangalore, India
Data Analyst — *Oct '18 – present*

- **Predictive maintenance of Caterpillar haul trucks at coal mines**
  - Built a classification framework using LSTM networks to predict breakdown of Caterpillar haul trucks at Kiewit's coal mining facility. Accurate prediction helps save additional cost of repairing an unplanned breakdown and increases throughput of the mining facility.
  - Improved the AUROC by 20% using rolling, tumbling and hopping aggregates on the truck's sensor data.
  - Used SHAP values to identify features that contribute to the maximum number of breakdowns.
- **Forecasting gasoline and electricity consumption for private vehicles**
  - Estimated depreciation of gasoline consumption and subsequent increase of electricity consumption due to the introduction of electric vehicles across all states in the US, using ARIMA and random walk models.
  - Created a parser in R to extract relevant information such as vehicle miles traveled, fuel consumption, vehicle type, etc. from various government and public survey websites.

Mu Sigma Inc. — Bangalore, India
Decision Scientist — *Sep '15 – Oct '18*

- **Building sales forecasting framework | Client - UK's largest retailer**
  - Built a forecasting framework using time series based ensemble model to produce forecasts at different levels of the buying hierarchy. It is used by commercial teams for budgeting and inventory management.
  - Included adjustment for external regressors like holidays and used forecast scaling for store closures which helped improve the overall company level forecast accuracy by 5.6%.
  - Used dynamic time warping to cluster similar time series shapes which helped decrease runtime of grid search for hyperparameter tuning. Parallelized model building, scoring, and forecasting for ~2500 stores and ~3600 products using PySpark. Used test-driven development to ensure error free codebase in a CI/CD pipeline.
- **Reducing device failure rates | Client - Fortune 3 technology company**
  - Created a boosted trees ensemble to predict electronic device failures leading to a 3% reduction (9% to 6%) in failure rate which translates to a cost reduction of ~1.8 million USD annually in inventory management.
  - Implemented cascading classifiers to decrease collateral damage while predicting device failures.
  - Completely automated and deployed the analytical solution using Jenkins saving ~40 man-hours each week.

Persistent Systems — Pune, India
Engineering Intern — *Jun '14 – May '15*

- **Developing CUDA based image processing application | Internship**
  - Developed a CUDA C based application to execute a computationally expensive content-aware image resizing algorithm called seam carving on GPU. This helped achieve 7.5X acceleration in execution time over traditional CPU execution due to the high degree of parallelism of Nvidia proprietary CUDA based GPUs.

Education

University of Pune — Pune, India
Bachelor degree in Computer Engineering — *2011 – 2015*
Completed with a First Class with Distinction grade. Ranked 3rd in a class of 180 students based on cumulative scores.

Skills

Programming: Python and PySpark, C and C++, R, SQL and HiveQL, Bash
Computational programming: octave, numpy, pandas, tidyverse, seaborn, ggplot2, scikit-learn, statsmodel, keras
Statistical Analysis: Regression, Bagging, Boosting, Ensemble, Hypothesis testing
Tools: iPython and Google colab, Teradata, Spark and Hadoop, Git and Github, LaTeX, Jenkins, Jira

Certifications

Machine Learning: Audited Coursera MOOC by Andrew Ng. [Certificate] [Code]
Decision Scientist: Audited credit based certification course by Mu Sigma. [Certificate]
Machine Learning A-Z: Hands-On Python & R In Data Science: Udemy MOOC. [Certificate]

Personal Projects

Tech support call logger: Minimalist application which uses google speech API to transcribe call logs and LIUM speaker diarization to assign speaker identity to the transcribed text at tech support call centers. [Code]

Shopping cart tracker: Application to track route of shopping carts in malls using kalman filters. An ibeacon sensor is attached to every shopping cart. Three receiver sensors strategically placed in the mall, correctly triangulate the position of the ibeacon enabled cart in realtime. [Code]