Aashita **Kesarwani**

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Education

PhD in Mathematics
Aug 2012 - Dec 2017

Tulane University
New Orleans

- Worked in Number Theory. Teaching assistant for the undergraduate courses – Introduction to Probability and Statistics, Statistics for Scientists, Statistics for Business, Calculus - I, II and III.

Coursera MOOCs

- Machine Learning by Stanford University
- Deep Learning Specialization by deeplearning.ai
  1. Neural Networks and Deep Learning
  2. Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization
  3. Structuring Machine Learning Projects
- Applied Data Science with Python Specialization by University of Michigan
  1. Introduction to Data Science in Python
  2. Applied Plotting, Charting and Data Representation in Python
  3. Applied Machine Learning in Python
  4. Applied Text Mining in Python

5-year Integrated MS in Applied Mathematics
Aug 2007 - May 2012

IIT(Indian Institute of Technology)
Roorkee, India

- GPA – 8.6 out of 10 (Second highest GPA among math majors).

Programming

Languages/APIs	**PYTHON** (NumPy, SciPy, ***pandas***, Matplotlib, seaborn, **scikit-learn**, nltk, markovify, sqlite3), XGBoost, TensorFlow, Keras, MATLAB, C++, MySQL
Miscellaneous	MS-Excel, LaTeX, Git, Jupyter Notebook

Projects

Analyzing comments posted on New York Times articles (Ongoing)

- Built a python package to retrieve comments from a customized search of the NYT articles concerning a specific topic in a given timeline and to preprocess and convert the data into pandas dataframes (or csv files).
- Contributed a dataset, that is among the 20 featured datasets on Kaggle, comprised of over 1.2 million comments with 34 variables and over 9,000 articles with 16 variables along with an exploratory kernel analyzing the data features and their inter-relationship with statistical graphs. More on: https://www.kaggle.com/aashita/nyt-comments
- Built bag-of-words models to predict the probability that a certain comment will be selected as a NYT's pick.
- Trained a bot to comment on current affairs using the markov chain model on the above dataset.

Toxic comment classification (Kaggle competition hosted by Jigsaw)

- Built a multilabel classification model to detect six different types of toxicity in comments such as threats, obscenity, insults, identity-based hate, etc. Recurrent neural network built using GloVe word embeddings and bidirectional LSTM layer, resulted in a performance score (ROC AUC) of 98.5% on unseen comments.

Titanic Survival prediction (Top 3% in Kaggle competition)

- Built a classification model to predict the survival of passengers on Titanic ship based on their gender, age, ticket fare, title, etc. using feature engineering and Extreme Gradient Boosting (XGBoost) algorithm.

The effect of recession on the housing prices

- Tested the hypothesis that the mean housing prices of university towns are less affected by recession as compared to other towns using data obtained from Zillow research, Bureau of Economic Analysis and wikipedia.

Plotting record temperatures for New Orleans

- Plotted the temperature trends in an informative and clear graph using data extracted from GHCN-DAILY posted as a blog in my website along with the python code. Tools used: pandas and matplotlib.