

Vishva Shah

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Work Experience

Data Science Graduate Assistant | UIC – Client: Claris Health | Chicago

Aug 2020 - Present

- Detected fraud in opioids oversupply with Auto-encoders and PCA in Python, eventually saving over ~\$10 million in claims.
- Architected deep learning LSTM algorithm for anomaly detection in complex claims data sets to mitigate claim risk by ~25%.
- Crafted Fraud, Waste & Abuse detection system in healthcare data in PostgreSQL preventing fraud risk and mitigating measures.

Data Science Research Assistant | UIC | Chicago

May 2020 – July 2020

- Applying NLP for information retrieval in Python to learn the intent of the input sentence and predict sense of sentence.
- Implemented state-of-the-art Flair model to validate the correctness based on contextual embedding and familiarity coefficients.

Actuarial Data Analyst | ICICI Prudential Life Insurance Company Ltd | India

Jan 2018 - July 2018

- Built predictive time series models in R to predict likelihood of an opportunity to convert from early sales, giving ~89% accuracy.
- Optimized dashboards for the segmentation of customers to target marketing strategies thereby increasing sales by \$8 million.
- Led a team of 5 in computing projections, writing, and presenting technical reports outlining sources of risk preventive strategies.

Actuarial Data Analytics Consultant | Reliance Nippon Life Insurance Company Ltd | India

Nov 2016 - Jan 2018

- Devised cluster analysis with K-means segmenting customers, conducted monte-carlo simulations, increasing sales by ~20%.
- Automated the procedure of extracting massive amounts of results using VBA thereby speeding up the process by ~70%.
- Performed statistical analysis for financial predictions, cost-benefit analyses and risk projections assisting in hedging strategies.

Projects

Image classification and captioning using LSTM, Python [GitHub repo]

Mar 2020 - Apr 2020

- Performed data augmentation (Rotating, Flipping, Mirroring) increasing training data by ~35% and reduced overfitting by ~25%.
- Designed the pretrained CNN model in Pytorch as encoder, used LSTM as decoder, used Flask for Deploying on Heroku.

Variational Auto-Encoders, Python [GitHub repo]

Feb 2020 - Mar 2020

- Built a VAE model to generate similar images from dataset, used to increase training data, ELBO loss as optimizer.
- Tuning of hyper-parameters (Batch size, Learning Rate, Momentum) by trial and error and increased training images by ~30%.

Manipal Hospital Harvard business review Case study, R [GitHub repo]

Sept 2019 - Nov 2019

- Computed statistical measures, imputed ~90% missing values using K-means, increased minority labels by ~40% with SMOTE.
- Coded random forest and xgboost model, tuned parameters with K-fold, validated results with F1 score of ~87% and AUC/ROC.

Competencies

Language & Tools	Python, R, PostgreSQL, PySpark, HTML, Tableau, AWS, MapReduce, Git, Docker, Kubernetes
Data Science Libraries	Scikit-Learn, NumPy, SciPy, Pandas, MLlib, OpenCV, ggplot2, rpart, randomforests, ROCR, Caret.
Machine Learning	Neural Networks (CNN, GAN), Unsupervised Learning (Clustering, PCA), Regression, SVM, K-NN, Decision Trees, Generative Algorithms (Naïve Bayes, LDA).
Soft Skills	Detail-oriented, In-born leader, Collaboration, Proficient communication, Problem-Solving, Goal setting.

Extra Curriculars and Leadership Experience

Statistical concepts [Numerical measures](#), [Data types](#), [Probability Distributions](#)

Effects of Social Media [Summary of Social Dilemma](#), [Data Privacy](#)

Business Analytics Organization, Board of Directors

Education

Master of Science in Business Analytics (STEM), University of Illinois at Chicago, GPA: 3.87/4.0

Expected May 2021

Courses: Machine Learning, Data Mining, Advanced Statistics and analytics, Time Series, Big Data, Network Analysis, ML Deployment, Data Visualization, Multivariate Analytics | **Awarded Full tuition Scholarship.**

Master of Commerce, University of Mumbai (India)

Dec 2020

Professional Degree in Actuarial Science, Society of Actuaries (USA) and IFOA (UK)

Apr 2018

Courses: Statistics for risk modelling, Mathematical modelling, Probability, Actuarial mathematics, Predictive analytics, Investment and financial markets, Economics

Bachelor of Commerce, University of Mumbai (India)

Apr 2016