|  |  |
| --- | --- |
|  | **Summary:** |
|  | Experienced Data Science professional with **3+ years of work experience** in analytics industry, seeking opportunity to use machine learning & deep neural networks to solve real world problems by converting data into actionable intelligence |
|  | **Programming Skills:** |
|  | * **Languages:** Python, R, Excel-VBA * **Frameworks:** TensorFlow & PyTorch * **Database:** SQL, MongoDB * **Visualization:** Power BI & QlikView (basic) * **Deployment:** Flask, Airflow |
|  | **Relevant Online Certifications:** |
| **Sep 2017- Present** | **Coursera**   * Improving Deep Neural Networks: Hyperparameter tuning, Regularization & Optimization * Neural Networks and Deep Learning * An Introduction to Practical Deep Learning * Machine Learning * Mathematics for Machine Learning   **LinkedIn**   * NLP with Python for Machine Learning Essential Training * Building and Deploying Deep Learning Applications with TensorFlow * Understanding Capital Markets   **Udemy**   * PyTorch for Deep Learning with Python Bootcamp * Deployment of Machine Learning Models |
|  | **Education:** |
| **2015 –2016** | **Indian Institute of Technology- Kanpur, India** |
|  | ***M.Sc in Economics* (CGPA – 9.0 / 10)** |
|  | ***Dissertation:***Study of International Trade Using Network Theory |
|  | ***Core Concentrations***: Econometrics, Non-Liner Dynamics in Financial Economics, Intro to Probability & Statistics, Applied Game Theory, Industrial Organization & Policy |
|  |  |
| **2011 –2015** | **Indian Institute of Technology- Kanpur, India** |
|  | ***Bachelors of Technology (Honors: Material Science Engineering)*** |
|  | ***Academic Excellence Award****:* ranked within top 5% of performers (class of 92 students) |
|  |  |
|  | **Professional Experience:** |
| **Jun 2018 – Apr 2019** | **CRISIL Global Research & Analytics (GR&A) | Pune, India** |
|  | ***Senior Research Analyst***   * Developed **QlikView** dashboard to monitor ex-post risk metrics for **90 fixed income funds** across different time horizons on daily level * Created a **Power BI** dashboard to provide high frequency monitoring of risk & performance of **165** **equity** **accounts** using Barra Factor Models (from MSCI) for risk decomposition * Set up a process to scrape **10 financial news websites** and put it into production using **MongoDB** database & **Airflow** to deliver relevant news articles to Risk Analysts & PMs * Used a **rule-based approach** along with **Named Entity Recognition** to connect article to companies * Tested pre-trained word embeddings (**Word2Vec & GloVe**) with **cosine similarity** to filter relevant articles (**de-duplication** process) along with **Topic Modeling** to extract meaningful clusters from news corpus |
|  | **Professional Experience:** |
| **Jun 2018 – Apr 2019** | **CRISIL Global Research & Analytics (GR&A) | Pune, India** |
|  | ***Senior Research Analyst***   * Worked on a pilot project for UK Based large investment Bank, where led a team of **4 people** to implement latest **Equity Quant Research paper** in the form of an R Package within a period of 4-5 weeks * Predicted **Industry level** returns monthly and created a Long-Short Portfolio which outperformed Momentum based portfolio for the period of study (1960-2016) * Used **Lasso & Ridge Regression** (**ElasticNet**) as Regularization techniques for preventing overfitting in the model for Industry Returns Prediction * On the basis of pilot project performance, **CRISIL signed a contract for 24 months** with UK based investment banking firm   **Achievement**: Received **Analytical Excellence** award for **1H-2019** for contributions across the firm  across different client projects |
|  |  |
|  | **Professional Experience:** |
| **Sep 2016 – May 2018** | **EXL Services- Operations Management & Analytics| Gurgaon, India** |
|  | ***Consultant*** |
|  | * Managed the Risk for Credit Cards Portfolio **(worth ~ $ 5 Billion** annual receivables) * Developed Test framework to extend the Income based Loan Limits keeping risk within the allowed framework **(Expected Incremental Exposure: $250,000)** * Created a new segmentation to finalize limits for Cash usage portfolio to bring down **Yr2 loss rates** from **17%** to **10-12%** * Awarded **10% Extra bonus** (above performance bonus) from Client for the quality work * Developed **5 comprehensive MIS** Reports to **replace 14** existing ones (used to being **produced by 3 different** **teams** on Client Side) |
|  | **Natural Language Processing (NLP) Project:** |
| **Oct 2019 - Present** | **Neural Machine Translator** |
|  | Framework Used: **Keras (TensorFlow 2.0)** |
|  | * Trained a **LSTM** based neural network for Language translation from English to Spanish * Used **Encoder – Decoder** based architecture to encode sentences to numeric vectors representation * Implemented **GRU** based units to compare performance to LSTM based architecture * Designed a custom **Attention Layer** to improve performance of LSTM/GRU based neural translator |
| **Feb 2018 – Mar 2018** | **Negative News Analytics Product for Credit Risk Domain** |
|  | Language Used: **Python** |
|  | * Used NewsAPI.org to fetch news articles for ~400 companies from on daily level * Created 3 labels for each article – **Relevancy, Section & Sentiment** * Used **GloVe word embedding model** to convert from text to numeric data to be fed into learning algorithms * Trained 5 models (**2 fully connected ANNs, 3 tree-based models**) to predict 3 types of output * Created a **pipeline** to create an ensemble of predictions from 5 models to **reduce** **variance** |
|  | **Machine Learning Project:** |
| **Nov 2017 – Mar 2018** | **Cash Portfolio Loss Reduction** |
|  | Language Used: **Python** |
|  | * Created objective **segmentation** of Cash users to finalize policy actions in order to reduce Yr2 loss rates from **17%** to business acceptable range of **10-12%** * Developed feature vectors on different dimensions of customer engagement to capture all performance dimensions (about **200** features created) * Implemented **Dimensionality Reduction** using **Clustering** Procedure in SAS (implementing **PCA** in background on the basis of Eigenvector Decomposition) * Applied **KS** (Kolmogorov–Smirnov test) & **PSI** (Population Stability Index) for model validation purposes |
|  | **Masters Research:** |
| **Apr 2015 – Jun 2016** | **Analysis of International Trade using Network Theory** |
|  | Language Used for analysis: **R, Gephi** |
|  | * Collected Data for Trade between 200 countries for a period of 25 Years (1990 -2014) from different sources (World Bank, Commerce Ministry of India, ASEAN etc.) * Validated Small World Phenomena by measuring **Average Path length** in **largest cluster** * Fitted **Logistic regression model** to simulate the growth in **Network Density** (trading links between countries) over time * Used **Linear Regression** modeling to ascertain important of **eigenvector centrality** of nodes (countries) on their **total exports** to rest of the world |
|  | **Volunteering:** |
| **Jul 2016- Aug 2016** | **SaveLIFE Foundation- New Delhi, India** |
|  | Research & operations support for road safety policy advocacy |
|  | **Interests:** |
|  | Trekking, Debating, Cooking |