

Vishesh Gupta

Assistant Manager | American Express

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JOB EXPERIENCE

Assistant Manager | American Express

Oct 2019 to Present

- Worked on marketing models including response, targeting, spend models and recommender systems using a wide variety of machine learning techniques like **XGBoost**, **CatBoost**, **Neural network embedding**
- Worked on Chatbot models utilizing multiple deep learning techniques such as **DistilBERT**, **BERT**, **PyTorch Big graph**
- Developed a challenger model for the chatbot models using **ERNIE**, offering lift of around 2.5% compared to production model (BERT)
- Working on a data science initiative for Model Explainability using techniques such as PDP, Permutation importance, SHAPley, etc.
- Currently working on a project with an aim to define hyper parameter tuning guardrails for GBM based techniques

Business Analyst | American Express

July 2018 to Oct 2019

- **CCAR credit and PPNR models** – Applying statistical diagnostics for variable selection and using regression techniques to forecast net credit loss, reserve capital and billed business of the company. End-to-end model validation including data, theory & approach and outcome analysis
- Current expected credit loss (CECL) models – Forecast current and potential credit losses to reserve for life of loan using generalized linear mixed modeling technique along with selection of data, variable transformation, sampling and model validation
- Identified sources of model risk, comprehensively reviewed all model components and development evidences for PPNR.
- Started working on **marketing models** of the company – spend, targeting, customer engagement, etc. using machine learning techniques
- Received **Excellence Award** for challenging the current proposal of calculating the expected TDRs (Trouble Debt Restructuring) and bringing down the incremental TDR reserves by \$3-4 MM
- Received **Excellence Award** for challenging current use of complex BERT model in chatbot models and identified some gaps in the metrics for ongoing monitoring and the process of choosing hyper parameters

INTERNSHIP INFORMATION

Decision Science Intern | Jumbotail Technologies Private Limited

May 2017 to July 2017

- Estimated and analyzed the profits made and automated the margin estimation system through the extensive use of R and SQL
- Worked on Customer Retention Project SARTHI using Machine learning algorithms and R
- Created an interactive system (GUI) of business metric using Python and SQL, which is used by different stakeholders to track their progress on an hourly basis
- Worked extensively on the databases of Jumbotail and Periscope

CERTIFICATIONS

DeepLearning.AI TensorFlow Developer | Coursera

August 2020

This course taught me how to use TensorFlow to build deep learning model such as artificial neural network, Convolutional neural network, NLP and RNN models

Fundamentals of Reinforcement Learning | Coursera

February 2020

This course taught me MDP, exploration/exploitation tradeoff, value functions, dynamic programming as an efficient solution approach to an industrial control problem

Deep Learning Specialization | Coursera

June 2019

Learnt the foundations of Deep Learning, understood the intricacies of **neural network** and basics of multiple algorithm such as **CNN**, **LSTM**, **RNN**

Econometrics: Methods and Applications | Coursera

October 2018

Familiarized myself with translating data into models in order to make forecasts and support decision making in a wide variety of fields, ranging from macroeconomics to finance and marketing

How to Win a Data Science Competition: Learn from Top Kagglers | Coursera

September 2018

Gained an understanding of the practical use-cases of several machine learning algorithms

PROJECTS

Prediction of Coupon Redemption | American Express

- Predicted the probability of redemption of a coupon by a customer for the next 10 campaigns, based on the customer's previous transaction history and the performance data of the last 18 campaigns

Prediction of Click probability |WNS

- Predicted the probability of a user clicking on an advertisement shown to them for the next 7 days, based on historical view log data, ad impression data and user data.
- Added 50+ more features based on customer past impression and trained a **LightGBM** model

EDUCATION

Educational Qualifications	Year	Board/Institution	CGPA* / %
B. Tech.	2018	Indian Institute of Technology, Roorkee	7.1
Twelfth	2014	CBSE	92.6
Tenth	2012	CBSE	9.8

*on a scale of 10

SKILLS

Computer Languages	SQL, Python, basics of C++
Software Packages	Teradata, SAS, iPython, MS Office
Additional Courses	Banking and Bank finance, Economics, Numerical methods and Computer Programming, Statistics
Languages Known	English (SRW), Hindi (SRW)

EXTRA CURRICULARS

- Organized an Entrepreneur summit in IIT Roorkee by bringing together various start-ups, potential investors and innovators from across the country
- Held the position of Secretary of Audio section Cultural Section IIT Roorkee and led a team of 50 people to organize and manage various events of cultural council of IIT Roorkee
- Played squash in the various inter-college sports tournaments
- Participated as a team member of Organizing Committee of 'Cognizance', the annual technical fest of IIT Roorkee.