



ASHISH DHIMAN

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EDUCATION

Georgia Institute of Technology, Atlanta, USA

GPA: 4.0/4.0

Master of Science in Analytics: Computational Data Analysis & Analytical Tools Track

Aug 2022 — Dec 2023

Relevant Coursework: Machine Learning, Regression Analysis, Analytical Modeling, Big Data Analytics, Deterministic Optimization, Non Linear Programming, Optimisation methods in Finance, Financial Instruments and Risk Management

Indian Institute of Technology, Kharagpur, INDIA

GPA: 8.32/10.0 | Class Rank 2

B.Tech(Honours) in Aerospace Engineering, with Specialisation in Optimization Theory

Jul 2015 — May 2019

WORK EXPERIENCE

American Express, Credit and Fraud Risk (US market)

Gurgaon, India

Assistant Manager - Data Science

Aug 2021 — Jul 2022

- **Graph Linkage Network:** Leveraged the bureau trade-line data (**250M rows**) housed on AWS to create a Directed Cyclic Graph, with consumers as nodes and shared trades as edges. Resulting modelling features from the network improved the defaulter capture rate and helped save **\$2.5M of yearly** credit default.
- **Xgboost pipeline for Covid deferrals:** Developed a modelling pipeline on AWS to identify customers enrolled in payment deferral plans. Collaborated with colleagues in Experian, to deploy it on the Experian's infrastructure.
- **Feature Selection Research:** Implemented and tested Gradient Boosted Feature Selection & min-Redundancy Max-Relevance methods on a data of 30M rows (US & Canada data) using Spark and MapReduce.
- **Delinquency Index:** Used balance & delinquency time series data to improve capture of high balance defaulters by 1.1%.
- **Subprime Data:** Used DataX, Teletrack & Clarity from Equifax/Experian to add **74bps GINI** lift in low tenure defaulter.

Analyst - Data Science

Aug 2019 — Jul 2021

- **Customer Segmentation:** Predicted the external credit card with the highest card spend, using transfer learning on new accounts data. The predictions were used to identify potential growth buckets.
- **Covid Trigger Parsing:** Analyst of Quarter for automated dashboards from trigger data, using cron, helping save 3 days.
- **Resume Parsing:** Slashed resume screening time by **30%** with NLP: **zero-shot classifier**, & Named Entity Recognition.
- **External Payment prediction:** Improved accuracy of the model by 7%, using Synthetic minority over sampling **SMOTE**.
- **Customer Contact Model:** Improved GINI of the GBM model by 16% along with a reduction in input features by 22%.

Quantiphi Analytics Pvt. Ltd, Athena's Owl

Mumbai, India

Decision Science Intern

May 2017 — Jun 2017

- **Object Detection:** Adjudged Best Intern-2017, for developing Object detection module of Athena's Owl using **(R-CNN)**.
- **Web Scraping:** Implemented a module to scrape meta-tags out of unstructured data, using **Selenium & BeautifulSoup**.

TECHNICAL SKILLS

- **Programming languages:** C | Python | R | SQL | Scala | MATLAB | SAS | \LaTeX | Bash | Excel | Hive
- **Software/Frameworks:** AWS (EMR/S3) | PySpark | Keras | TensorFlow | Tableau | Hadoop | MapReduce | Yarn
- **Machine Learning:** XGBoost | A/B Testing | Optimization | Forecasting | Statistical Modelling | Bayesian Modelling

PROJECTS & PUBLICATIONS

Food Recognition and Recommender System

Machine Learning Class Project, Georgia Tech

- Used ResNet50 CNN architecture with transfer Learning to achieve a Top-5 validation accuracy of 91% on food images.
- Applied Collaborative Filtering with SVD algorithm on the food rating dataset to recommend the best recipes to a user.

Norm Learning with MCMC Sampling

University of Otago, New Zealand

- Published research in **IJCAI'21** to infer Norms expressed as instances of Probabilistic Grammar using MCMC sampling.
- Transposed **Gelman Rubin** statistic to analyze the convergence of MCMC chains in grammar space using **tree kernels**.

Portfolio Optimisation with Kernel Search

Bachelors Thesis, VGSOM, IIT KGP

- Solved Enhanced Index tracking (Mixed Integer) with Heuristic Kernel Search to improve the performance by 12%.
- Used Nonnegative Principal Components and Nonnegative Matrix factorization to remove short-term volatility.

Ranking Mutual Fund Houses in India

Inter Hall Data Science, IIT KGP

- **Captained** a gold winning team of **20 members**, for developing a analytics framework to rank Mutual Fund Houses.
- Applied **LSTM** for multivariate temporal forecasting of Net Asset Values (NAV) of mutual funds, and Vector Auto Regression (VAR) for quantifying responsiveness of the fund houses against macroeconomic anomalies and shocks.