

# SHUBHAM GOYAL

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## EDUCATION

### Northeastern University, Boston, USA

GPA: 3.6/4.0

*Masters of Science in Information Systems (Computer Software Engineering)*

*Sep 2022 – May 2024*

**Relevant Courses:** Big Data & Intelligent Analytics, Neural Modeling (Deep Learning), Network Science

### Indian Institute of Technology (IIT) Kharagpur, India

GPA: 7.5/10.0

*Integrated Bachelor of Science, Master of Science in Geophysics*

*Jul 2014 – May 2019*

## WORK EXPERIENCE

### Verato Inc

McLean, VA

#### *Data Science Intern - Bayesian Modeling*

*Jun 2023 – Aug 2023*

- Developed and evaluated a probabilistic model for imputing missing data values in personally-identifiable information
- Enhanced individual profile-matching algorithm leveraging bipartite graph networks and gradient boosting models

### American Express

Bengaluru, India

#### *Assistant Manager (Data Science), Global Collections*

*Nov 2021 – Aug 2022*

- **Xgboost for Defaulter Collections:** Spearheaded re-development of collections model to rank order highly collectible defaulters using Xgboost algorithm with Bayesian hyperparameter optimization
- Deployed model in production attaining ~15% Gini uplift in benchmark metrics with ~\$1.2MM benefit in collections
- **High-Balance default case study:** Adjudged best presenter for in-depth analysis and default preventing recommendations, resulting in saving ~\$400K exposure at default

#### *Analyst (Credit Risk Strategy), US Commercial limits*

*Nov 2019 – Nov 2021*

- **Proactive Limit Increase Strategy:** Recognized as Analyst of the Quarter for leading first corporate portfolio campaign- 400+ clients received a total increment of ~\$73MM resulting in 11% increase in Y-o-Y spending
- **Bank-based Underwriting:** Collaboratively launched a Platform Capability for corporate portfolio with an incremental annual PTI impact of ~\$2MM, by systematically integrating bank statements with underwriting platforms
- **Bank-based Risk-Index:** Formulated a risk index using attributes emerging from transactions in bank statements
- **Low-Risk Underwriting Strategy:** Re-designed strategy for small businesses setup for risk assessment, with an expected incremental spend impact of ~\$20MM annually and loss save of \$0.2MM. Executed a 6-month A/B test pilot to formalize strategy, partnering with engineering and compliance teams to execute a phased solution
- **MIS for Commercial Business Portfolio:** Derived key success metrics to track customer performance for end-to-end MIS tracking dashboards of customers setup for financial gathering

## SKILLS/TECH STACK

**Programming:** Python | SQL | PySpark | R | C++ | AWS | GCP | Docker | Airflow | Tensorflow | FastAPI | NetworkX

**Data Science:** Machine Learning | Deep Learning | Statistical Inference | NLP | Time Series | Transformers | Tableau

## PROJECTS

### LES Weather Forecasting: Multi-Modal Architecture ([Git](#))

*Neural Modeling Project, NEU*

- Developed a classic Encoder-Decoder architecture using ConvLSTM and LSTM for weather forecasting at Lake Michigan
- Used satellite images and meteorological data to create the model attaining a recall of 0.85 on a highly imbalanced data

### DIME Network Analysis: Study of US Political Contributions ([Git](#))

*Network Science Project, NEU*

- Researched DIME data to formulate a network among the monetary contributions in US Federal Elections
- Leveraged network science principals to showcase scale-free properties, and ideology-based communities among contributors

### TravelBud: AI Tool for Travel planning ([Git](#))

*Big Data Project, NEU*

- Developed a travel itinerary-generating application optimized basis user areas of interest, budget, and destination
- Leveraged RapidAPI for flight, hotels data, and OPENAI GPT3 for chat completion coupled in a cloud ecosystem

### VaniVerse ([Git](#))

*Big Data Project, NEU*

- VaniVerse is a conversational AI platform that can be used to generate prompts for a given audio file
- OPENAI Whisper & GPT API are leveraged to process audio files and generate prompts simultaneously using Airflow

### Founder - GrocerEase: Smart Digitization of Groceries ([Pitch Deck](#))

*Husky Startup Challenge, NEU*

- Addressed a prevalent problem of forgetfulness and provided an efficient way to digitize purchases by just scanning receipts
- Ranked in Top-5 finalists in the startup incubator competing among 20 other startups for \$10K funding