

# Anukriti Gupta

9+ years of experience in Data Science, a strong background in developing algorithms and models for the Healthcare and Banking Industry. Proficient in various domains, including NLP, Deep Learning, Graph Learning, and developing comprehensive solutions across diverse frameworks and technologies.

With 4+ years of experience in **Team leadership and client management across different geographies** which included the successful delivery of end-to-end productionalized solutions. Also an Organizer of **RLadies Delhi Chapter and Women in Data Science, WIDS Delhi** to foster Gender Diversity in the Data Science community.

Has been an **academic scholar** and received notable awards from eminent personalities like **APJ Abdul Kalam (Ex President of India)**, **Arun Jaitley (Ex Finance Minister)**, and **Shashi Tharoor (Indian Politician)**.

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## EXPERIENCE

### TigerGraph, Delhi — *Senior Customer Success Manager*

Nov 2022 - Present

- Managed a portfolio of over 5 clients spanning the Asia Pacific region, specializing in the Financial and E-commerce sectors.
- Implemented diverse graph-based solutions for use cases like Entity Resolution, Supply Chain Management and Cycle Detection for prominent banks and major airlines operating across the Asia Pacific region.
- Spearheaded the end-to-end development of AI-based AML solution, tailored for workflow management and STR tracking for one of the largest financial institutions in the Philippines.
- Played an instrumental role in addressing Supply Chain challenges for some of the world's leading FMCG companies within the EMEA region.
- Pioneered a Cycle Detection-based solution to identify circular patterns within graphs, serving as a crucial indicator for pricing strategies at a macro level.
- Delivered Graph ML solution within the APAC region for PSPs.
- Oversaw pre-sales responsibilities throughout the APAC region, focusing on fraud prevention solutions, supply chain optimization, airline cost management, AML solutions, and related areas.

### Zenon, Delhi — *Manager Data Scientist*

Jan 2021 - Nov 2022

- **[Amex]** - \$20M+ saving opportunity derived within Amex current system by Goodwill Write Off Model.
- **[Johnsons & Johnsons]** - Developed an automated NLP Framework to identify contract clauses for redlining to create backup clauses from the template which has reduced the cycle time significantly.
- **[Johnsons & Johnsons]** - Developed Automated Document Generation portal to generate summarized documents for medical devices required as per EU regulations, using NLP-based pattern match and modifying XML Architecture.
  - Reduction in time from weeks to seconds.
  - Building Knowledge Graph-based search engine, to search the relevant medical document using ontologies and entity extraction using NER Model
  - Developed POC with Neo4J.
- **[Alliance Data System]** - Developed the most optimal Credit Line increase strategy leading to an average of 25% increase in revenue every quarter with a Customer size of 2M accounts.
- **[Health Transformation Alliance]** - Devised an outreach strategy leading to higher wellness impact and 100\$ Mn annual reduction in medical expenses for behavioral

## AREAS OF EXPERTISE

TigerGraph, Neo4J, Knowledge Graphs, Ontology, Quantum Computing, GraphML

LangChain, RetrievalQA, LLM Models - Llama2, Falcon-7b-instruct, Hallucination Prevention Strategies

Natural Language Processing, MultiModal AI, IncrementalML, Explainable AI

Deep Learning, Machine Learning Classification, and Regression Models, Speech Recognition Analysis

Anomaly Detection. Bayesian Models, Recommender Engine, Confirmatory Factor Analysis,

Product Analytics, A/B testing.

## AWARDS/ACHIEVEMENTS

1st prize in Zennovate (out of 15+ teams), Product development competition at Zenon

2 Patent Pending - Right Time to Engage, Model monitoring framework

1st prize (out of 20+ teams) Optum Datahack ML competition to predict Service Outage

health patients by building a **look-a-like segmentation analysis using Machine Learning Models**.

- **[Hoag Health]** - Set up an end-to-end digital analytics framework from Scratch, from Data Lake (integration of Patient's EHR from different sources) to tracking patient's activity and improving patient's engagement on the digital platform using AI solutions.

## UnitedHealth Group, Delhi — *Manager Data Scientist*

Jul 2015 - Dec 2020

- Developed a **Portfolio Optimization** Strategy leading to a **32% increase in member's activations** for Renew Rewards program using **LSTM/GRU model with an Attention mechanism**
- Developed AI framework to provide **affordable facilities for MRI** (within 5 miles radius) by predicting prior likelihood using ICDs, NCDs, and CPTs with **LSTM Models** for Medicare and E&I Business.
- Built **Member's Retention model** by predicting the likelihood of members leaving UHC's Medicare products and identified the key drivers using **Regularized Logistic Regression, Random Forest and Extreme Gradient Boosting method** (15% decline in retention rate)
- **Established a complete Data Science team from Scratch** for E&I line of business, **managed teams of 10+ DS**, and delivered various **customer-centric solutions** [Prioritizing offers to share as part of Inbound Calls, Developed Customer segments based on their lifestyle and Medical profile, Reducing Readmission within 30 days of discharge by identifying prior likelihood with RF, etc.]
- Lead an initiative PINE, to identify short-term triggers/events occurring in members' life impacting their journey on a real-time basis.
- **32% increase** in member's engagement within DHN program using RTE model built to identify the likelihood of a member to pick up a call using the **Gradient Boosting method**
- **Predicted Provider's rating** based on the "member's satisfaction with provider" metrics from Survey to take stringent actions against Provider with low rating using **Hierarchical Bayesian Modeling and Confirmatory Factor Analysis**.
- **Segmented Disabled members** based on their Physical and Behavioral need to effectively target the member based on their medical state and current medical condition using **Confirmatory Factor Analysis**.
- Developed a hassle-free strategy of patient interaction with specialists by **identifying the need to visit a Specialist [with Loinc Codes]** using Lab data.
- Predicted the likelihood of a member to have **mobility impairment** in the future using **logistic regression, Random Forest, and PCA**. Identify their pain points and develop strategies to improve their member experience.
- Developed an automated tool for **IncrementalML**, to reduce unnecessary rescoring and validation while capturing trends of the latest data.
- Improved the methodology to define the members' level of engagement by analyzing their prior interactions, used the **Empirical Bayesian Model** to predict the likelihood of a member engaging in the future.
- Identified an optimized path for high outreach in **Breast Cancer Screening campaign** and to reduce unproductive communications using **Decision Trees and Markov Model**.
- Performed member's segmentation to understand callers behavior and optimize their contact strategy at member level clusters with **K-means & hierarchical clustering**
- Developed an **Uplift Model**, composed of Test and Control Models which identifies the impact of inbound call campaign on completion of screening available with the member post 120 days of the campaign using **Naïve Bayes Classifier Algorithm**
- Identified the key problems that would lead a member to be a Detractor (lowest score in NPS) using **Topic Modeling (Text Mining)**

## HSBC, Bangalore — *Data Scientist*

Jul 2014 - Jul 2015

- Worked with a global mandate that aims to support the **Anti -Money Laundering (AML)** Operations & Investigations teams for HSBC Correspondent Banking businesses in HK and UK
- Optimized AML investigation process by **62% reduction** in non-productive transactions by building Risk-based prioritization statistical model.

Selected in Top 5 - Barclays Hackathon 2019 (out of 300+ teams) - To build an Employee attrition framework. Also invited to Pune office

45th rank (out of 3k+ teams) Gala Image Classification Hackathon using SOTA CNN Model.

32nd rank (out of 1k+ teams) in Qiskit HackerEarth Quantum Computing Challenge

Promoted to a managing role in 6 months duration at UnitedHealth Group.

### PRESENTATIONS/TALKS

Minneanalytics conference (Minnesota, USA): Provider Rating Score

Analytics India Magazine (Bangalore): ExplainableAI

AISS 2019 DSCI- NASSCOM (Gurgaon): New Tech New You

Indo- Swiss Conference (Delhi):

Women in AI

Women in Machine Learning & Data Science (Minnesota, USA): Hyperparameter Tuning in ML Models

### LANGUAGES

Programming: Python, R, Spark, VBA, C++, Unix.

DB: SQL, Hive Frameworks: TensorFlow,

Keras, Pytorch, R Shiny.

Libraries: Spacy, NLTK, pandas, NumPy, Plotly, scikit-learn.

## EDUCATION

### IIT Bombay, Mumbai— *M.Sc. Mathematics*

Jul 2012 - May 2014 | **CGPA - 9.29/10**

- **2nd rank** (out of 30+ students), recipient of **Institute Academic Award** (for top 2 rank holders)
- **45th rank** (out of 20k+ candidates) in JRF (NET) conducted by UGC

### Hindu College, Delhi University— *B.Sc. Mathematics*

Jul 2009 - May 2012 | **Percentage - 88%**

- **AIR -4** (out of 10k+ candidates) **IIT JAM, Joint Admission Test** for Mathematics, conducted by IIT
- **3rd rank** holder in Delhi University (800+ students)
- **1st position** in all 3 years at Hindu College, Delhi University (60+ students)

## INTERNSHIPS

### MINISTRY OF STATISTICS, GOVT. OF INDIA

Jul 2013 - Aug 2013

Statistically analyzed demographic profiles of India using **Machine learning Models** on 2011 Census data under Chief Director (Statistics Division) using SPSS