

## Grace George Sam

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### EDUCATION

**Carnegie Mellon University, H. John Heinz III College**, Pittsburgh, Pennsylvania May 2025  
Master of Science, Public Policy & Management - Data Analytics (STEM)

A highly selective STEM certified program with robust coursework in data mining & machine learning, statistics & modeling, and computer programming

Modules: Database Management, Python, Data Visualization, Transportation, Management Science, Telling Stories with Data, Memo Writing, Domestic Policy Analysis, Machine Learning, GIS, GenAI, Big Data, Agentic Model, LLM, Policy Innovation, Prompt Engineering

**University of Delhi, Delhi School of Economics**, New Delhi, India May 2018  
Master of Arts, Economics

Modules: Statistics, Econometrics, Microeconomics, Macroeconomics, Linear Algebra, Game Theory, Public Econ., Real Analysis

**University of Delhi, St. Stephen's College**, New Delhi, India May 2016  
Bachelor of Arts (Hons.), Economics

### SKILLS

Programming Languages/Others– Python, SAS, SQL, Tableau, GitHub, MongoDB, Webscraping, MS Office Stata, GRET

Libraries – NumPy, pandas, scikit-learn, BeautifulSoup, Selenium, matplotlib, TensorFlow

### WORK EXPERIENCE

**City of Philadelphia**, Philadelphia, Pennsylvania June - August 2024  
Data Analyst Intern, Department of Revenue

Developed an ML model to guide audit selection, improving the success rate of audits (30% -> 60%). The time saved in selecting audits, and more successful audits implies more tax revenue to further the development of the city

**HDFC Bank Ltd**, Mumbai, Maharashtra, India June 2018 - June 2023  
Data Scientist - Marketing Analytics

- Engineered an automated Binarization Tool - Discretization tools to analyze continuous variables are available, but the binary-view option is missing. Devised tool sharpened and accelerated data analysis step and had team-wide utility
- Managed bouquet of asset products - gold loan, home loan, and loan against securities - enhanced product cross-sell through benchmark propensity models, microsegments, and customized narratives for communication
- Pioneered an in-house text parsing logic to parse apartment name from residential addresses. Created logic was 90% faster and accurate compared to existing logic
- Time series modelling was a first in the team. Created an automated end-of-the-period balance prediction model for 4000+ branches
- Spearheaded acquisition drive for Institutional Banking segment accruing additional deposits of over INR 21 Crores
- Improved customer service through local business correspondents by leveraging location data to reduce long-distance travel to branches in rural areas
- Developed predictive churn models to control balance attrition and reactivation scorecards to identify inactive customers likely to become active. With 70% recall, the models boosted success of activation drives
- Leveraged text mining techniques and utilized surrogates indicative of family relation to identify and group family members within customer base. A success rate of 70% was achieved from the identified base leading to revenue gains
- Executed end-to-end analytical campaign: Basis customer's life-stage and existent product holding, relevant life-insurance product out of over 5 variants was identified and pitched to make offering relevant, and campaigns sharper

### PROJECTS & RESEARCH

- [Portfolio](#): skills in GIS, Agentic Models, Policy Analysis, Storytelling with Data, Data Vis., Design Thinking, Optimization, ML
- Capstone project with RIDC (Regional Industrial Development Corporation) January – May 2025

Developing a system-based regional mapping framework that will evaluate the resource needs of entrepreneurs and match them to local service providers to efficiently and equitably allocate resources in the Southwest Pennsylvania region

- DEI Research Assistant, Heinz DICE Office, Carnegie Mellon University August 2023 - Present
- Collaborate with a team of social justice-driven students to plan and organize events celebrating culture and igniting conversations on topics pertaining to identity

- PLUS Tutor, Carnegie Mellon University November 2023 – Present
- Remotely tutoring low-income middle school students with the objective of doubling math learning outcomes

- Project Manager, APA, Students Using Data for Social Good (SUDS) October 2023 – May 2024
- Led the project exploring the differential implementation and impact of the 2015 Marijuana Ordinance

- Tutor for Statistical Reasoning (90707), Carnegie Mellon University November– December 2023

- SCHOOL Survey, Volunteer, Bhopal, MP, India August 2021

Survey coordinated by Dr. Jeane Dreze and Dr. Reetika Khara to assess the impact of school closures on children's learnings. Surveyed 2 hamlets in Bhopal. Results from pan-India study was published in report titled '[Locked Out](#)'

- Factors driving choice of occupation among trans-genders June 2017
- Project was undertaken as part of Krishna Raj Research Fellowship awarded. Conducted on-field interviews to analyze factors keeping trans-genders away from mainstream employment. Post professors' review, paper was amongst best three projects