

# SIMRAN KARAMCHANDANI

U.S. Citizen

svkaramchandani@gmail.com | (201) 786-3665

<https://linkedin.com/in/skaramchandani> | <https://github.com/simkaramchandani01>

## OBJECTIVE

Data Science graduate with experience in transforming data into actionable insights and building analytics dashboards to drive operational efficiency. Eager to leverage analytical skills and technical expertise in a dynamic, data-driven role.

## RELATED COURSEWORK

Generative AI, Statistical Analysis, Data Mining Principles, Linear & Non-Linear Models, Machine Learning & Predictive Analytics, Data Engineering Platforms for Analytics, Time Series Analysis and Forecasting, Data Visualization

## SKILLS & SYSTEMS

- **Programming:** Python, SQL, R, LLM, MATLAB/Simulink, Linux Bash, Java
- **Machine Learning Algorithms:** Regression, Classification, Clustering, Gradient Boosting, XGBoost, LightGBM
- **Data Analytics:** Data Cleansing, Exploratory Data Analysis, Data Mining, Data Modeling
- **Systems:** Agentic AI, CrewAI, Tableau, Power BI, Veeva Vault QMS, LIMS, MES
- **Certifications:** Green Belt Six Sigma, Yellow Belt Six Sigma, Agile Scrum

## PROJECTS

### University of Chicago

Jul 2023 – Jun 2025

**Lease-to-Own Pricing Strategy (Capstone):** Won “Best in Show” in Winter 2025 Capstone Showcase

- Built a **predictive model** using customer behavior and financial patterns to identify which approved applicants were most likely to sign a lease, driving **data-informed pricing strategies**.

### Generative AI:

- Developed multimodal chatbot that returns product information and displays relevant product images based on user queries, leveraging text and image processing with **TorchVision**, **CLIP embeddings**, and Facebook AI Similarity Search (**FAISS**) for similarity search and retrieval from vector storage.
- Built an intelligent resume reconstruction tool using **CrewAI**, coordinating specialized agents to parse job descriptions and dynamically tailor resume content for improved alignment with role-specific requirements.

### Predictive Modeling & Data Analytics:

- Developed Machine Learning (ML) models in **Python** to assess Type II Diabetes risk, analyze audio features for music success, and predict gym membership churn based on user behavior.
- Conducted statistical analysis in R-Studio using **regression**, **ANOVA**, and Principal Component Analysis (**PCA**) to identify key factors influencing housing prices and market trends.

## WORK EXPERIENCE

### Vertex Pharmaceuticals, Boston, MA

Jan 2022 – Present

### External Manufacturing Operations Senior Specialist

May 2024 – Present

- Resolved 95% of production issues within established timeframes through cross-functional triage discussions, minimizing downtime at CDMO partner sites.
- Led process tech transfer through documentation review and quality event management to ensure compliance.

### Manufacturing Operations Specialist (Shift Lead)

Feb 2023 – May 2024

- Improved Manufacturing process efficiency by 30% through development of Manufacturing Power BI dashboard.
- Led shift operations, delegated personnel responsibilities, and acted as SME for process operations and event triage.

### Manufacturing Operations Senior Scientific Associate

Jan 2022 – Feb 2023

- Supported tech transfer to new facility via material readiness and execution of qualification runs.

## EDUCATION

- **University of Chicago**, M.S. Applied Data Science, **GPA: 3.97/4.0**

Jul 2023 – Jun 2025

- **Northeastern University**, M.S. Chemical Engineering, **GPA: 3.7/4.0**

Aug 2021– Dec 2022

- **Syracuse University**, B.S. Bioengineering and Neuroscience, **GPA: 3.5/4.0**

Aug 2017– May 2021