

# SIMRAN KARAMCHANDANI

U.S. Citizen

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

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

## OBJECTIVE

Graduate Data Science student at The University of Chicago with a professional background in the biotechnology industry. Seeking opportunities to apply analytical skills and machine learning techniques in data-driven environments.

## RELATED COURSEWORK

Statistical Analysis, Python for Data Science, 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
- Systems: Tableau, Power BI, Veeva Vault QMS, Laboratory Information Management System (LIMS), MES
- Certifications: Green Belt Six Sigma, Yellow Belt Six Sigma, Agile Scrum

## PROJECTS

### University of Chicago

Jul 2023 – Jun 2025

Skills: Machine Learning (Supervised Learning), Data Pipeline Building, PyTorch, TensorFlow, Tableau, Python, SQL, R

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

- Segmented customers based on purchasing behavior and patterns of engagement with lease-to-own program with goal to improve customer retention and marketing ROI to ultimately drive long-term customer value.

### Predictive Modeling & Data Analytics:

- Developed 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 PCA to identify key factors influencing housing prices and market trends.
- Leveraged SQL to manipulate, sort, group, and summarize large datasets, while also analyzing relationships within data using database schemas.

## 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

- Executed GMP aseptic and bioreactor operations for Type I Diabetes program in Grade A/B environment.
- Supported tech transfer to new facility via material readiness and execution of qualification runs.

### Takeda Pharmaceuticals, Lexington, MA

#### Service Delivery and OCM Specialist Intern

Jun 2021 – Dec 2021

- Improved operational efficiency by 25% by developing automated metrics and reporting tools in Power Apps.

## 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