

Joseph Denby

josephdenby.com

joseph.denby0@gmail.com

+1 814 404 0817

SKILLS

- **Languages:** Python (`pandas`, `scikit-learn`, etc.), R (`tidyverse`), SQL, Stan/PyMC3, L^AT_EX
- **Tools:** LLMs, Airflow, Spark, PyTorch, AWS/GCP/Azure, Databricks, Github, LangChain, HuggingFace
- **Domain Knowledge:** Generative AI / NLP, Machine Learning, Deep Learning, Data Visualization, Data Analysis

EMPLOYMENT

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|---|---|
| <ul style="list-style-type: none">• Tilt
<i>Staff Data Scientist Python, SQL</i>• Navy Federal Credit Union
<i>Lead Data Scientist Python, SQL, LLMs, LangChain, Azure</i>• Socure
<i>Senior Pre-Sales Data Scientist / Manager Python, R, SQL, Airflow, Spark, Looker</i>• Merrill Lynch
<i>Data Scientist Python, SQL, NLP, Scikit-Learn, PyTorch</i>• Decode_M
<i>Data Scientist Python, NLP, Webscraping, Bayesian Inference</i> | <p>Remote
<i>August 2023 - February 2026</i></p> <p>Remote
<i>August 2023 - February 2026</i></p> <p>Remote
<i>April 2021 - March 2023</i></p> <p>Jersey City, NJ
<i>September 2020 - April 2021</i></p> <p>New York, NY
<i>July 2019 - July 2020</i></p> |
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- **LLM Expert System:** Designed, built, and implemented a domain-expert GenAI chatbot using state-of-the-art techniques in fine-tuning and RAG, deployed via Azure Containers. Allows employees to interactively extract insights from banking regulation documents, massively improving AML & Compliance productivity.
 - **Anomaly Detection:** Designed and built an ML outlier detection system to clean data records and monitor application deployment logs. Saved \$100k+ in labor costs through improved employee productivity.
 - **AML Watchlist Pipeline:** Using Python and SQL, implemented custom address disambiguation and name parsing algorithms to reduce false negatives by over 60%, saving \$300k+ in manual review costs. Collaborated with OFAC and Engineering teams to design and construct a data processing pipeline for screening of 350M+ bank customers.
 - **Selected Clients:** Wells Fargo, Capital One, Chime, DraftKings, Public
 - **Pre-Sales Analytics:** Collaborated closely with sales teammates to support \$10M+ in sales deals through proof-of-concept analysis using Python, R, and SQL. Conducted hands-on machine learning analyses in Python using massive financial datasets to uncover fraud and relieve onboarding friction.
 - **Post-Sales Management:** Led a team of junior data scientists to generate \$5M+ in value for clients using cutting-edge anomaly detection techniques. Leveraged statistical techniques and BI tools to uncover and deliver data insights to business stakeholders.
 - **Pipeline Automation:** Assisted product and engineering teams by automating machine learning model evaluation using Python, R, and Airflow. Queried 500GB+ datasets using SQL on hosted AWS instances to conduct 100+ model iterations without manual intervention.

EDUCATION

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| <ul style="list-style-type: none">• University of Chicago
<i>Master of Arts in Computational Social Science</i>• Cornell University
<i>Bachelor of Arts in Philosophy & Psychology</i> | <p>Chicago, IL
<i>September 2017 - June 2019</i></p> <p>Ithaca, NY
<i>August 2013 - May 2017</i></p> |
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