

Jeremiah Crowell

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Master's graduate in Computer Science – Data Science with experience deploying ML models in Databricks, building LLM-powered applications, and designing efficient data pipelines. Skilled in Python, SQL, and PySpark, with end-to-end ownership of projects from preprocessing and feature engineering to deployment and business integration.

PROFESSIONAL EXPERIENCE

John Deere | *Software Developer*

Dec. 2022 – Current

- Led a machine learning initiative by designing and deploying a LightGBM claims classification model in Databricks using Python, SQL, and PySpark. Drove end-to-end model development from data preprocessing and feature engineering to evaluation and pilot deployment, while leveraging software and data engineering expertise to build efficient pipelines and replicate business logic. Collaborated with leadership to define metrics and prepare the model for production rollout, enhancing both efficiency and accuracy in claims operations.
- Modernized our dealers' parts ordering site by replacing the legacy system with a dynamic React-based web application, integrated with the SAP backend through new Spring Boot-based microservices, providing seamless functionality for order tracking, claim creation, and returns.

Midland States Bank | *Data Engineering Intern*

May 2022 – Aug. 2022

- Optimized an hourly analytics data pull by replacing an inefficient SQL query with a set of sources in our EDL system.
- Developed data mappings as needed to meet the analysis needs of the bank, maintaining SOX compliance with strict data governance policies and accurate reporting standards

EDUCATION

University of Illinois Urbana-Champaign

Master of Science, Computer Science in Data Science

Graduated Winter 2024

GPA: 4.0

University of Illinois Urbana-Champaign

Bachelor of Science, Statistics & Computer Science

Graduated Winter 2022

GPA: 3.6

TECHNICAL SKILLS

Languages: Python, JavaScript/TypeScript, Java, C/C++, ABAP, HTML/CSS

Technologies/Frameworks: Pandas, NumPy, scikit-learn, PyTorch, SQL, PySpark, R, Databricks, PowerBI, React, TailwindCSS, Flask, Spring

PERSONAL PROJECTS

Boardally.io

- Built a full-stack RAG web application using Gemini to answer board game rulebook questions, developing a custom test harness using "LLM-as-a-judge" to evaluate different models and tune thinking budgets on a custom test set of real user questions, improving answer accuracy while controlling inference costs.
- Integrated user authentication, per-user rate limiting, and Stripe integration for paid tiers. Coordinated backend logic with server actions and API routes.

Explainable Sentiment Analysis Application

- Enhanced the interpretability of a pretrained sentiment analysis language model on a set of movie reviews by highlighting critical parts of text using leave-one-out embeddings, providing insights into review sentiment drivers.

Time-Series Modeling and Clustering for Sales Analysis

- Analyzed the time-series data of annual sales across grocery store departments using a splines model. Applied clustering on basis function parameters to identify patterns and trends, providing actionable insights with predictive applications.