

Matthew Boraske

Data Scientist

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Education

West Chester University of Pennsylvania | M.S. Computer Science

January 2023 - May 2024

- Graduated Summa Cum Laude with a 4.0 GPA.
- Completed thesis "The Efficacy of Finetuning Large Language Models for Interpersonal Conflict Resolution" under Dr. Richard Burns' advisement and published "Context is Key: Aligning Large Language Models with Human Moral Judgments through Retrieval-Augmented Generation" at the 37th International FLAIRS Conference on AI.

The Ohio State University | B.S. Industrial and Systems Engineering

August 2017 - May 2021

- Graduated Cum Laude with a 3.53 GPA and completed a minor in Computer Science.
- Served as Undergraduate Teaching Assistant for Fundamentals of Engineering Honors, mentoring students through engineering labs, C/C++ coding projects, and semester-long robotics competitions.

Experience

CSL Behring | Data Scientist

August 2023 - Present

- Led development of a conversational AI tool leveraging RAG and fine-tuned embedding models to analyze plasma donor reviews, delivering actionable insights to donation center managers and driving approximately 15% improvement in average review scores.
- Deployed an internal chatbot enabling private conversations with GPT and Llama 3 models, serving as the organization's functional expert in NLP, machine learning, and generative AI.
- Created AI-powered data retrieval tools using retrieval augmented generation with fine-tuned embedding models to enhance decision-making across business functions.

CSL Behring | Data Scientist Intern

June 2023 - August 2023

- Developed a generative AI application that translated natural language queries into SQL code, eliminating technical barriers to data access for non-technical stakeholders.
- Fine-tuned Flan-T5-XL model using curated SQL instruction and preference data, achieving accurate query generation across multiple connected databases.

Epic Systems | Technical Solutions Engineer

June 2021 - October 2022

- Provided expert technical support for MyChart patient portal integration across U.S. healthcare systems, troubleshooting critical issues and optimizing system compatibility to improve end-user performance.
- Led the MyChart Mobile expert support group in building CI/CD pipelines that automated application updates, saving up to 5 hours per week in manual deployment efforts.

Honda of America Manufacturing, Inc. | Machine Learning Engineering Co-Op

May 2020 - August 2020

- Trained a deep neural network that predicted optimal preventative maintenance timing for production plant assets with 88% accuracy, improving equipment longevity and reducing disruptive downtimes.
- Collected and preprocessed sensor data from manufacturing equipment to create labeled training datasets for predictive maintenance models.

Technical Skills

Data Science & AI: Natural Language Processing (NLP), Large Language Models (LLMs), Fine-tuning, Deep Learning, Reinforcement Learning, Machine Learning Operations (MLOps), Retrieval Augmented Generation (RAG)

Programming & Tools: Python, Java, C++, C, SQL, PyTorch, TensorFlow, Langchain, HuggingFace, Scikit-learn, Pandas, Apache Spark, MLflow, OpenCV, Flask, FastAPI, Django, Streamlit, React.js, Docker, Kubernetes, Git, Linux

Cloud & Platforms: Databricks, Microsoft Azure, AWS (S3, EC2, ECS, Redshift, Bedrock, Sagemaker, Lambda), GitLab

Certifications

AWS Certified Solutions Architect – Associate Issued September 2025, Expires September 2028

AWS Certified Cloud Practitioner Issued September 2025, Expires September 2028

Databricks Certified Machine Learning Associate Issued September 2024, Expires September 2026