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 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 labs covering engineering fundamentals, C/C++ coding projects, and a semester-long robotics competition.

Experience

CSL Behring | Data Scientist *August 2023 - Present*

- Serve as functional expert in NLP, machine learning, and generative AI, developing AI data retrieval tools using retrieval-augmented generation with fine-tuned embedding models.
- Led development of conversational AI tool leveraging plasma donor reviews to provide actionable insights for donation center managers, driving approximately 15% improvement in average review scores.
- Deployed internal chatbot to facilitate private and secure conversations with GPT and Llama 3 models, enabling enterprise-wide access to large language models.

CSL Behring | Data Scientist Intern *June 2023 - August 2023*

- Developed generative AI application that translated natural language queries into SQL code for execution on connected databases, reducing technical barriers to data-driven decision-making.
- Fine-tuned Flan-T5-XL model for English-to-SQL translation using a mixture of SQL instruction and preference data, achieving high accuracy on complex query generation.

Epic Systems | Technical Solutions Engineer *June 2021 - October 2022*

- Provided expert support on MyChart patient portal integration for U.S. healthcare systems using Epic EMR, troubleshooting critical issues and optimizing system compatibility.
- Led MyChart Mobile expert support group in building CI/CD pipelines to automate application updates, saving up to five hours per week in manual deployment time.

Honda of America Manufacturing, Inc. | Machine Learning Engineering Co-Op *May 2020 - August 2020*

- Trained deep neural network to predict optimal times for preventative maintenance of production plant assets, achieving 88% accuracy and reducing disruptive downtimes.
- Analyzed sensor data from manufacturing equipment to identify patterns and features predictive of equipment failure.

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