

# Adam Sayyed

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## EDUCATION

### **University of Maryland, Baltimore County (UMBC) - Meyerhoff Scholar**

June 2023 - Present

B.S. Computer Science, ML / AI Specialization, GPA: **3.8**

## TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript, Java, Assembly, Haskell, HTML/CSS, R, C#

Libraries/Frameworks: PyTorch, Pydantic, Pandas, NumPy, Matplotlib, FastMCP, Seaborn, Scikit-learn, React, SciPy, NodeJS

Developer Tools: CI/CD pipeline, GitLab, Github, Git, HPC Clusters, SLURM, CUDA, Linux, Anaconda, OpenMP, Conda

## EXPERIENCE

### **Sandia National Laboratories, Software Engineering & Machine Learning Intern**

May 2025 - Present

- Engineered Model-Context-Protocol (MCP) integration with LLMs, enabling automated function calling and reducing manual query workflows for a geospatial analytics software
- Improved spectroscopy dataset reliability to 100% integrity by designing a validation framework and extracting top 11 predictive features for model development.
- Boosted classification accuracy to 95% on geospatial data by developing and optimizing ML models (SVM, Random Forest, Gradient Boosting) while engineering software to enable robust multi-object tracking in field operations.

### **University of Maryland Baltimore County, Undergraduate Researcher**

January 2025 - Present

- Designed and implemented a custom multimodal neural architecture for stock-movement prediction, integrating time-series technical indicators with transformer-based sentiment embeddings from fine-tuned FinBERT models
- Fine-tuned FinBERT and RoBERTa models to generate finance-specific sentiment vectors and integrated them into a multimodal pipeline for stock-movement prediction.
- Built end-to-end data pipelines (Yahoo Finance, NewsAPI, GDELT), including preprocessing, feature engineering, and temporal alignment of news with price movements.

### **University of Iowa, Undergraduate Researcher (Mentor: Dr. Adhikari)**

May 2024 - January 2025

- Implemented and trained a seq2seq Transformer (“Attention Is All You Need”) for German to English translation, fine-tuned on the Multi-30k dataset, and optimized with Adam and hyperparameter tuning.
- Monitored and analyzed model performance using PyTorch, NumPy, pandas, and Matplotlib, reducing translation loss through iterative experimentation.
- Evaluated state-of-the-art LLMs with Hugging Face pipelines and datasets, benchmarking transformer performance against established models.

### **United States Food & Drug Administration (FDA) Summer Intern**

July 2022 - August 2022

- Designed and implemented interactive R Shiny components for a bispecific antibody dosing model, enabling dynamic visualization, responsive UI, and optimizing UI workflows for regulatory scientists.
- Enhanced usability and reliability by conducting iterative testing, integrating error handling, input validation, and automated reporting, improving functionality and end-user trust.

## PROJECTS

### **Full-Stack Chat App | React.js, Node.js, Express.js, MongoDB, Mongoose, JavaScript**

- Designed and developed a real-time messaging platform supporting 50+ concurrent users with chat rooms and live message transmission using React.js and Socket.IO.
- Built scalable server-side infrastructure for user accounts and chat data management with Node.js, Express.js, and MongoDB, enabling efficient retrieval and storage of thousands of messages

## AWARDS

- Meyerhoff Scholar, UMBC
- University of Maryland Baltimore County Dean’s List / President’s List

January 2023 - Present

## CONFERENCE PRESENTATIONS

- 2025 Joint Mathematics Meetings (JMM 2025)
- IOWA Summer Undergraduate Research Conference (SURC)

January 2025

July 2024