THANMAYEE BOYAPATI

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EDUCATION

University of Minnesota-Twin Cities   December 2025
Major: Computer Science B.S & Data Science B.S | **Minor:** Statistics
Honors: National Center of Women in Technology~State Winner 2022 & Deans list 4x

WORK EXPERIENCE

Group Lens Research Lab | Minneapolis, MN   December 2025 - Present
ML Research Assistant (Human-Computer Interaction)

- Modeled heterogeneous treatment responses using comparative Causal Inference frameworks (T-Learner, X-Learner, Causal Forests) to achieve a 5% increase in predictive accuracy
- Streamlined a low-noise feature pipeline for rs-fMRI data, deriving network-level and node-strength metrics from 17- and 400-node parcellations to mitigate high-dimensional noise
- Quantified treatment variance by integrating Electric Field (EF) exposure measures with baseline connectivity data to guide feature selection for CATE modeling
- Validated biomarker stability through resampling tests (80% subsamples × 20 repeats), ensuring robust feature sets and reducing redundancy for downstream modeling

Mayo Clinic | Rochester, MN   June 2025 - December 2025
AI Engineer Intern - Biostatistician Department

- Deployed an end-to-end genomics RAG system integrating OCR and entity extraction to ground LLM responses in clinical data, improving query accuracy by 20%
- Engineered a high-performance retrieval layer with MongoDB and LangChain to index structured clinical entities, reducing inference latency by 350ms
- Fine-tuned a domain-adapted Llama-3 model using Sentence Transformer similarity metrics to enhance contextual relevance for complex medical document processing
- Constructed an OCR-driven extraction pipeline with complex RegEx patterns to transform unstructured medical PDFs into high-fidelity JSON clinical formats

Group Lens Research Lab | Minneapolis, MN   August 2024 - Jan 2026
NLP and Personalization Research Assistant (Recommender Systems)

- Architected a hybrid intent-alignment pipeline utilizing RoBERTa and Sentence Transformers to quantify semantic alignment across news headlines with 90%+ accuracy
- Co-authored a forthcoming SIGIR paper on News Recommendation Systems, executing 50+ controlled experiments to evaluate LLM performance and provide core empirical validation.
- Developed diagnostic visualization workflows to identify algorithmic failure modes, surfacing critical click-through-rate (CTR) trends and locality-category shifts
- Optimized production headline generation strategies by analyzing model consistency, directly informing infrastructure improvements for a live personalized newsletter service

College of Science & Engineering | Minneapolis, MN   August 2025 - December 2025
CSCI 5525 - Machine Learning: Analysis and Methods

- Facilitated technical instruction for 40+ students by conducting weekly office hours and tracking lecture topics to provide targeted conceptual support
- Managed high-volume assessment for 150+ students, evaluating all course quizzes to ensure rigorous grading of machine learning theory and application
- Mentored students in debugging complex algorithmic implementations and data pipelines

PROJECTS

LLM-Powered Financial Analytics Platform | *React, Node.js, MongoDB, OpenAI API*

- Designed a full-stack analytics platform with a MongoDB persistence layer, enabling scalable storage and retrieval of unstructured transaction records
- Integrated an LLM-driven data pipeline to automate financial activity categorization, transforming raw data into personalized insights and reducing manual entry

SKILLS

Languages: Python, SQL, Java, JavaScript, C, R
ML/AI: PyTorch, Scikit-learn, Hugging Face, Sentence Transformers
GenAI: LLM Fine-Tuning, RAG, Embeddings, Prompt Engineering, Evaluation Metrics, LangChain
Data & Systems: Pandas, NumPy, Docker, AWS, GCP, MongoDB, REST APIs, Tableau