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GitHub: github.com/zXmattmesq

Portfolio: zxmattmesq.github.io

Education

The Pennsylvania State University, University Park, PA (August 2022 - May 2025)

Bachelor of Science in Applied Data Science

Minor in Computer Science

GPA: 3.1

Work Experience

AI Research Assistant – AI Emotional Intelligence, College of IST (Feb 2024 – Current)

- Conducted a literature review on multimodal emotional classification and interaction in large language models (LLMs).
- Researched NLP and Computer Vision techniques, focusing on the development of models to analyze a wide emotional spectrum.
- Fine-tuned large language models (LLMs) using TensorFlow and PyCharm, incorporating an improved dataset and model published on Hugging Face.
- Ran experiments integrating audio, visual, and textual inputs into language models, utilizing clustering techniques and data augmentation.

Research Assistant – Working Futures Network, Dana Calacci (Oct 2024 – Current)

- Investigated user interaction with social biases in large language models (LLMs) by analyzing and reviewing current literature.
- Conducted surveys to study user behavior and perceptions around bias in LLMs.
- Planned strategies for promoting user-based feedback mechanisms aimed at fostering more inclusive model behavior.

Project Work

Research Assistant – RoBERTa GoEmotions (May 2024 – Current)

- Fine-tuned a RoBERTa model using PyTorch, leveraging multiple GPUs for parallel training.
- Evaluated model performance using precision, recall, and F1-score metrics.

Team Lead – Penn State AI Advisor: Hack PSU (March 2024)

- Developed a database encompassing Penn State's course offerings, resources, and health advisories.
- Built an AI-powered chatbot using Retrieval-Augmented Generation and the ChatGPT API.

Skills and Certifications

Programming Languages: Python, SQL, R, Java

Tools: Tableau, Hadoop

Certifications:

- Custom and Distributed Training with TensorFlow (June 2024)
- AWS Cloud Associate (In Progress)

Organizations

Advisor – PSU IST Open-Source Software Group (Oct 2023 – Current)

Team Member – Nittany Data Labs (Aug 2023 – Current)