Aidan Andrews

Aspiring Ai & ML Researcher

Relevant Experience

Lead Engineer Startup / May 2024 - August 2024

- Developed cutting-edge **Natural Language Processing** (NLP) systems, focusing on optimizing **Retrieval-Augmented Generation** (RAG) to improve large-scale information retrieval and **intent classification**.
- Engineered a novel "Wavular" RAG approach, integrating hybrid **embedding-based classification** systems that advanced text representation and **semantic search** capabilities.
- Applied complex **similarity metrics** (e.g., cosine similarity, Euclidean distance) and **vector space models** for efficient data processing in resource-constrained environments.

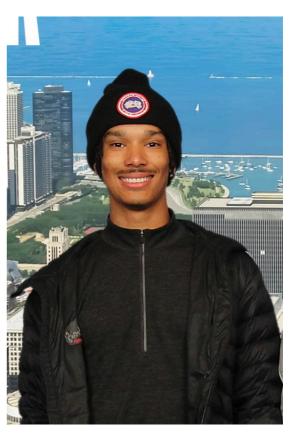## Past Projects

ClimatePredict / February 2024 - May 2024

- Developed a multi-model regression system capable of predicting temperature changes as a function of CO_2 emissions, utilizing **linear regression, polynomial regression,** and **random forest** models.
- Used **NASA climate data** to train models that effectively project long-term climate outcomes based on human actions, highlighting the application of ML in environmental science.

devenegarai / august 2023 - november 2023

- Built a **Convolutional Neural Network** (CNN) to accurately recognize handwritten Devanagari characters, applying advanced **data augmentation** and **preprocessing techniques** to ensure high model accuracy across diverse handwriting styles.
- Implemented real-time **model training** using Keras and scikit-learn, optimizing performance with **backpropagation** and **gradient descent algorithms**.

voxai / december 2023 - February 2024

- Engineered a Linux-based, Nvidia Jetson-Nano powered AI learning assistant. Adept at transcribing lectures, integrated with a Large Language Model for enhanced study support,

I am an AI and ML enthusiast with a strong foundation in physics and computer science, dedicated to using technology for global improvement. I aim to research and develop practical solutions to real world problems.

CONTACT

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EDUCATION

University of Illinois Urbana-Champaign
Bachelor of Science in Engineering Physics

Bachelor of Science in Mathematics & Computer Science (Dual Degree)

SKILLS

- CNN's
- LLm's
- AI/ML Aplications
- Deep Learning
- Algorithms
- Computer Vision

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ASPIRING AI/ML RESEARCHER

TO WHOM IT MAY CONCERN

I am writing to express my enthusiasm for the [position you're applying for] at [Company Name], as advertised. With a strong background in machine learning, physics, and applied mathematics, along with practical experience in AI and natural language processing, I am eager to contribute my skills to your team and help drive innovation within your organization.

As a sophomore at the University of Illinois at Urbana-Champaign pursuing dual degrees in Physics and Computer Science & Mathematics, I have built a solid foundation in machine learning and data science through both academic projects and hands-on experience. Most recently, I worked as a founding Machine Learning Engineer at a startup, where I developed advanced NLP systems, optimizing Retrieval-Augmented Generation (RAG) models and intent classification algorithms.

I am particularly excited about [Company Name]'s commitment to [specific area of company's work or mission]. My experience aligns with these goals, particularly through my research on machine learning models for the healthcare field, where I developed predictive models to assess medical procedure outcomes. This demonstrates my ability to apply AI to real-world, impactful problems.

Beyond my technical qualifications, I am also a dedicated learner and leader. I founded a clothing brand, NVRALONE, that generates $10,000 in monthly profits and supports suicide prevention initiatives. Additionally, I have managed teams and orchestrated events, all while maintaining a 3.89 GPA as a full-time student and Division 1 college athlete. This balance of academic excellence, entrepreneurial leadership, and teamwork will allow me to bring a unique perspective to your organization.

I am very interested in the opportunity to further discuss how my skills and experiences can contribute to the success of your team at [Company Name]. I have attached my resume and would be grateful for the opportunity to interview at your convenience.

Thank you for your time and consideration. I look forward to hearing from you.

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