JONATHAN KIM

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Education

The University of Texas at El Paso (UTEP)　　　　　　　　　　　　　**Expected: May 2026**
Bachelor of Science in Computer Science, Minor in Mathematics　　　　　　　　　　*GPA: 3.74*
Relevant Coursework: Object Oriented Programming, Automata, Computer Organization, Data Structures & Algorithms

Experience

The Ohio State University AI-EDGE Institute　　　　　　　　　　　**May 2024 - July 2024**
Generative AI Researcher　　　　　　　　　　　　　　　　　　　　　*Columbus, Ohio*
- Analyzed generative models (**GPT-2**, **VAEs**, **GANs**) to understand their theoretical frameworks and algorithmic implementation, using **PyTorch** for hands-on experimentation and testing.
- Optimized **GPT-2**'s text generation on **1 million tokens** of Shakespearean poems, implementing fine-tuning techniques in **PyTorch**, leading to **4% improvement in accuracy**.
- Developed expertise across **supervised**, **unsupervised**, **semi-supervised**, and **reinforcement learning**, applying **diffusion models** to enhance training outcomes and model robustness.

Projects

DUI Risk Radar (BorderHack) (2nd Place) | *HTML/CSS, JavaScript, React, Firebase*　　**September 2024**
- Led a team of 3 to develop a **full-stack web app** using **React** and **Firebase** to visualize DUI accident data and warn users of high-risk zones, addressing the United Nations' Goal 3.6 to reduce road accident deaths.
- Created dynamic data visualizations using **Google Maps API**; applied linear interpolation to **enhance mock data accuracy by 55%**.
- Implemented a reporting feature using **Google Cloud Speech-to-Text** to transcribe and store reports with time and location in Firebase, ensuring driver safety.

Vocowbulary (MLH HackWesTX) | *HTML/CSS, JavaScript, React, Node.js, MongoDB*　　**September 2024**
- Developed a **full-stack web app** using **React**, **Node.js**, and **MongoDB** to help non-native speakers improve pronunciation through real-time feedback.
- Enhanced **user's pronunciation accuracy by 20%** by building a custom scheduling algorithm and integrating **Google Gemini** to analyze user speech and provide corrective feedback.

SnapMarket (TikTok TechJam) | *HTML/CSS, JavaScript, Axios, React, Django*　　**June 2024 – July 2024**
- Designed a video screenshot-based product search web app using **React** and **Django** to enhance shopping experiences on the TikTok shop through image recognition.
- Built the **frontend** in **React**, implementing scroll animations, hover effects, and responsive layouts across screen sizes.
- Streamlined data handling from **Serp API** to display product details, **improving data accuracy by 75%**.

Poké Generator | *PyTorch, Diffusers, Matplotlib, Pandas, Python*　　**May 2024 - July 2024**
- Fine-tuned **Stable Diffusion 2** to create a model capable of generating Pokémon images, collaborating in a team of 3.
- Optimized 5 datasets of 300,000 data points by removing irrelevant data with **Python** and **Pandas**, enhancing **data pipeline efficiency by 20%**.
- Refined the base model through **LoRA** fine-tuning, **reducing model training time by 18%** and **improving image accuracy by 40%**.

Leadership / Extracurricular

CIA Analytical Mentorship Program　　　　　　　　　　　　　**September 2024 - Present**
Analytic Mentee　　　　　　　　　　　　　　　　　　　　　　　　　　*UTEP*
- Enhanced analytic and briefing skills through CIA mentorship, researching AI applications in the Chinese military.

Free and Open-Source Club　　　　　　　　　　　　　　　　**January 2024 – Present**
Secretary　　　　　　　　　　　　　　　　　　　　　　　　　　　　*UTEP*
- Improved club operations and outreach, **increasing attendance by 20%** and **mentoring 15+ students** through **Flask** workshops and open-source tools.

Technical Skills

Programming Languages: Python, Java, JavaScript, SQL
Technologies: HTML/CSS, Git, React, Node.js, Flask, Firebase, Docker, MongoDB, Axios, PyTorch, Pandas