

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 University of Texas at El Paso

January 2025 - Present

Elementary Data Structures and Algorithms Instructional Assistant

El Paso, Texas

- Collaborate in creating and delivering curriculum for semiweekly recitations with **37 students**, focusing on enhancing coding problem-solving skills in **Java**.
- Conduct regular office hours, offering guidance in debugging solutions and reinforcing effective development methodologies.

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.

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

Central Intelligence Agency (CIA)

September 2024 - Present

Analytical Mentorship Program Mentee

UTEP

- Enhanced analytic and briefing skills through CIA mentorship, researching AI applications in the Chinese military.

Free and Open-Source Club

January 2024 – January 2025

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, HTML/CSS, JavaScript, SQL

Technologies: Git/GitHub, React, Node.js, Flask, Firebase, Docker, MongoDB, Axios, PyTorch, Pandas