Jeremy Galarza

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Education

The University of Texas at El Paso   **Expected Graduation Date: May 2027**
B.S in Computer Science, Concentration in Software Engineering | Minor in Mathematics
Relevant Courses: Data Structures & Algorithms, Digital Systems Design, Automata/Computabilty/Formal Languages

Technical Skills

Languages: Java, Python, HTML/CSS, JavaScript, TypeScript, Swift, LaTeX
Technologies: AI/ML, Git, Astro, Django, VS Code API, Bash, Linux, QEMU

Projects

Summit - AI Outdoors Companion   **May 2025**

- Independently developed a proof-of-concept iOS app that leverages **on-device AI models** to provide the user with real-time guidance during outdoor activities.
- Utilizes **MLC-LLM** in tandem with the **iOS Speech framework** for real-time speech recognition for user assistance.
- Integrates **CoreML** and the **Vision framework** to provide contextually-aware assistance using the camera feed.

SchoolFlow   **April 2025**

- Designed an AI-powered platform for school districts to gain actionable insights by correlating real financial data with academic success metrics, visualized through graphs and dashboards.
- Implemented the website frontend and developed an AI model trained on the district's dataset.
- Trained an AI model on the school district's dataset, which was used in conjunction with a team-built **SQL database** to produce the platform's analytical outputs.

Bayesian Network Model   **April 2025**

- Used a **Pomegranate** and **Pytorch** to create a model that calculates the exact probabilities of different real life events based on user input.
- Modified the knowledge base of the model to simulate different scenarios that the average person would go through.

Nim Game Using Machine Learning   **August 2025**

- Worked on a game in Python that utilized **machine learning**.
- Utilized a **Q-learning algorithm** for the AI opponent which learned based on a specified amount of games, as well as games it has played with the user.
- Generates a visual output of the game's results using the **PIL** library.

HAWK RTL Design for Pedestrian Crosswalk (Digital Systems Design)   **November 2024**

- Recreated a High-intensity Activated Crosswalk design in Xillinx Vivado from UTEP's specifications.
- Implemented this design using **Verilog HDL** as an Algorithmic State Machine.

Experience

Tech Frontier   **April - May 2025**
AI Developer Pathway Alumni

- Acquired a strong understanding of fundamental Artificial Intelligence concepts such as **neural networks**, **machine learning**, and **natural language processing**.
- Leveraged several capabilities of Artificial Intelligence in Python, including **TensorFlow**, **Pytorch**, and **Pomegranate**.
- Independently developed an iOS application that will demonstrate the **real world utility** of these concepts to provide tangible user benefits. (Summit)

STTE AI Hackathon   **April 2025**

- Developed an AI-powered product for the education category in collaboration with a team of four. (SchoolFlow)
- Applied skills in data analysis, frontend development, AI tools, and implemented an **SQL database backend**.