Jeremy Galarza

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Education

The University of Texas at El Paso **Expected Graduation Date: Dec. 2026**

B.S in Computer Science, Concentration in Software Engineering | Minor in Mathematics

***Relevant Courses**: Elem. Data Structures, Digital Systems Design, Intro to Computer Science Discrete Mathematics, Matrix Algebra, Probability and Statistics*

Technical Skills

***Proficient Languages**: Java, Python, HTML/CSS, JavaScript, Verilog HDL, Markup Languages, LaTeX*

***Learning Languages** : Swift, C, C++, SQL*

***Technologies**: Artificial Intelligence, Machine Learning, Github, Git, Emacs, Django, Linux, QEMU*

***Certifications**: Microsoft Office (MOS), Adobe Creative Suite*

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 developing an iOS application that will demonstrate the **real world utility** of these concepts to provide **tangible user benefits**.

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.

Projects

Summit - AI Outdoors Companion **Ongoing**

- 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 **April 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 **Nov. 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**.

Wordle **Nov. 2023**

- Recreated the popular game New York Times game Wordle using **Java**.
- Utilized **file reading** methods to customize word data.