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, Github, Git, Emacs, Django, Arch 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**
  – I'm currently developing an 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 **Gemma** for real-time speech recognition to provide user assistance.
  – Integrates the **MediaPipe framework** to provide contextually-aware assistance.

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.