Jeremy Galarza

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Education

The University of Texas at El Paso **Expected Graduation Date: Spring 2028**

Master of Science in Computer Science, Concentration in Software Engineering | Minor in Mathematics *Major GPA: 3.5/4.0*

***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*

Experience

Undergraduate Research Assistant **September 2025 - Ongoing**

UTEP Computer Science

- What the topics were and any technologies utilized
- Information about the project

Tech Frontier **April 2025 - 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**.

Projects

Summit - AI Outdoors Companion for iOS **May 2025**

- Independently developed a proof-of-concept iOS app using **Swift** 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 - Online Platform for School Administration **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.

Probability Calculator Using 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.

HAWK RTL Design for Pedestrian Crosswalk - Digital System 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.