

Ramiro Santos

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EDUCATION

University of Texas Rio Grande Valley

Masters of Science in Computer Science

Edinburg, TX

Dec. 2024 – Dec 2026

University of Texas Rio Grande Valley

Bachelors of Science in Computer Science

Edinburg, TX

Dec. 2021 – Dec 2023

EXPERIENCE

Teacher Assistant

University of Texas Rio Grande Valley

Aug. 2021 – Present

Edinburg, TX

- Tutored students in data structures, algorithms, software engineering, and discrete math, enhancing their coursework performance.
- Coordinated schedules for a team of TAs, and assisted over 80 students per semester.
- Assisted faculty with grading, exam monitoring, and administrative tasks.

Grad Research Assistant

University of Texas Rio Grande Valley

May 2024 – Present

Edinburg, TX

- Analyzed research papers in the ASARG Lab, supporting projects on CRN, Self-Assembly, and Motion Planning.
- Developed and evaluated reductions for problems in NP-complete, P, NP, PSPACE classes, including both exponential and polynomial solution values, enhancing theoretical insights.
- Assisted in research on Parallel CRN, examining the application of size rules multiple times, and contributing to the development of innovative solutions.

PROJECTS

Project M347 | *Godot, GD Script, Blender, Steamworks, Git*

Aug 2024 – May 2024

- Led a team in developing a 3D POV horror game with an innovative Audio Visualizer mechanic, engineering character movements, UI elements, and visual effects to enhance gameplay immersion.
- Designed and implemented a system where creatures react to specific audio frequencies, amplifying the horror experience, and successfully published the game on Steam, attracting over 50 players.
- Showcased strong leadership, collaboration, and technical expertise in Unity, C#, and game development, receiving positive feedback for the game's unique mechanics.

Kirby's Adventure into PSPACE | *Overleaf, Motion Planning,*

Nov 2023 – Nov 2023

- Collaborated in proving that Kirby's Adventure for the NES is PSPACE-Complete.
- Developed a 2-toggle Lock Gadget using in-game switches, illustrating that solving one-player motion planning in Kirby's Adventure falls into the PSPACE-Complete category.
- Our groundbreaking research provided a fresh perspective on the computational complexity of Kirby's Adventure, significantly advancing game complexity theory. This study implies that other games in the Kirby series with similar mechanics may also be PSPACE-Complete.

Interactive NPC Project | *Unity, C#, OpenAI, ElevenLab, Blender, Git*

Aug 2023 – Dec 2023

- Developed an innovative Unity project featuring an interactive NPC character.
- Utilized OpenAI's Whisper mode for speech recognition and Eleven Labs' Text-to-Speech API for dynamic audio responses. Implemented a dialogue system in C# to manage conversations.
- Created an immersive and engaging experience, showcasing strong proficiency in Unity development, C# programming, and integrating advanced AI technologies.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R

Frameworks: Langchain, OpenCV, Unity, PyTorch, SQL, PostgreSQL, React, NextJS, OpenAI

Developer Tools: Git, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, Unity, Jira, Blender, Colab, Power BI