CARLOS DAMIAN ROJAS

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EDUCATION

The University of Texas at Austin **May 2027**

Bachelor of Science in Electrical and Computer Engineering

Relevant Coursework: Data Structures & Algorithms, Discrete Mathematics, Software Design & Implementation, Embedded Systems, Digital Logic Design, Circuit Theory, Probability & Statistics

EXPERIENCE

Cybersecurity Incident Response Intern - UT Regional Security Operations Center **March 2025 – Present**

- Monitored and analyzed over **50+ security events weekly**, improving incident detection accuracy by **20%**.
- Authored incident reports that reduced triage time of 4+ hour long events for senior analysts by **10%**.
- Automated log-parsing scripts in Python, cutting data prep time from **1 hour to 30 minutes** per investigation.

Machine Learning Research Intern - UTSA Unmanned Systems Lab **January 2024 – August 2024**

- Gained proficiency in reinforcement learning, using **MuJoCo** and **Python** to train models across 4 physics environments.
- Executed **50+ parallel experiments daily**, leveraging **NumPy/Matplotlib** to analyze and visualize large datasets.
- Contributed to the development of **5 novel AI algorithms** in collaboration with 3 other researchers.
- Utilized **hyperparameter tuning** to enhance agent in traffic simulations, resulting in improved intersection performance.

PROJECTS

Algorithms Visualizer Web App | *JavaScript (Node.JS, Next.JS, React), CSS*

- Developed a BFS/DFS visualizer **in Next.js/React** frontend with **Node.js API routes**, processing **625 grid nodes** in real time.
- Improved performance to sustain **100+ animation steps** per second with minimal lag.
- Built a mobile-responsive UI with **dynamic grid resizing**, ensuring consistent user experience on all screen sizes.
- Deployed app on Vercel with continuous integration and **100% uptime** in production tests.

Space Invaders Game | *C, Assembly, KiCad*

- Programmed and implemented a Space Invaders clone on the MSPM0 microcontroller using **C and Assembly.**
- Engineered a **finite state machine** with **6+ states** (menu, gameplay, win, loss, reset, pause) for game logic.
- Utilized **edge-triggered inputs** that reduced input latency to **<5 ms** and added multilingual support.
- Designed a **custom PCB** in **KiCad** integrating **6+ input buttons** and **LED display**, ensuring real-time rendering.

Rowdy Park | *Python*

- Created an RPG game, "Rowdy Park," featuring selectable characters and a dynamic map with **5+ enemy types**.
- Acted as **project manager** and collaborated with a group **4 peers,** delivering a playable prototype within **48 hours**.
- Implemented core game mechanics, including movement, combat, and collision physics using the **Pygame python** library.
- Achieved **5th place overall out of 40+ teams**, recognized for technical execution and creative design.

LEADERSHIP

Texas Club Rugby Team - Captain & Vice President **August 2024 – Present**

- Led and represented **30+ teammates**, coordinating weekly practices and travel logistics for **10+ away games**.
- Captained the team to **3 in-state tournament victories** and qualification for the national tournament in 2025.
- Represented team in university athletics meetings and state rugby committees, advocating for funding and opportunities.

Klesse Student Advisory Council - Freshman Representative **August 2023 – May 2024**

- Spearheaded student engagement initiatives as a Freshman Representative, actively gathering input from over **3,500 peers**
- Organized **5 impactful events** with attendance numbers ranging from **70–100 people**.
- Fostered a sense of community within the College of Engineering and furthered students' professional engagement.

Association of Computing Machinery - Junior Vice President **October 2023 – May 2024**

- Led the planning and execution of **5+ technical workshops and speaker events** for **100+ CS students**.
- Coordinated logistics for hackathons, speaker panels, and networking sessions, ensuring efficient operation.
- Directed cross-team collaboration with fellow officers to execute events smoothly and on schedule.

SKILLS

Programming Languages: Python | Java | C++ | C | JavaScript | HTML/CSS | Assembly | bash | TypeScript

Technologies: pandas |matplotlib | NumPy | pytorch | Tensorboard/Tensorflow | Git | KiCad | Multisim | Waveforms