Cedric M. Slavin

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EDUCATION

University of Texas Rio Grande Valley May 2026 (Expected)
Bachelor of Science, Computer Engineering Edinburg, TX

EXPERIENCE

Software Engineering Internship May 2023 - Aug 2023
United States Department of Energy Savannah River Site, Aiken, SC

- Obtained a federal security clearance for largely classified nuclear operations
- Debugged and deployed changes to Power Systems app using C++, professional use of Git
- Monitored power systems, made calculations, and compiled logistical changes for HVAC installation

Undergraduate Research Assistant Sep 2024 - Present
UTRGV Machine Intelligence Laboratory Edinburg, TX

- Learning Transformer DL architecture in Computer Vision; data gathering/preprocessing
- Assisting in developing and fine-tuning models for image classification and object detection tasks
- Present weekly reports on Multi Agent Reinforcement Learning and Search Algorithms

IT Engineer May 2024 - Present
SESA Fleet Services Weslaco, TX

- Assisted in the development of employee logging app using Typescript
- Troubleshoot internet problems, set up local network server infrastructure (ongoing)
- Designed and implemented new website frontend, drove online employee applications up 50%

PROJECTS

Electric Guitar Image Classifier - Python, Tensorflow, Render, Keras, Pillow, Flask, JS

- Fine-tuned pretrained model from 30% train/valid accuracy to 85% train/valid accuracy
- Created CNN and trained with preprocessed data, tailored with search queries from Google
- Developed with DevOps convention: Deployed to web service, version controlled using Git

Metroidvania/Celeste Style 2D Platformer *(In Progress)* - C++, OpenGL

- Story-driven, input-heavy, Celeste-inspired, 2D platformer, expected total of 5 Levels
- Tackling typical game problems like physics simulation and AI opponent mechanics
- Utilizing DevOps practices for streamlined collaboration, continuous integration, and automated testing

Autonomous Vehicle Reinforcement Training *(Hackathon Project)* - Pytorch, Python, LateX

- Used reward-based function, rapid decision-making and stable performance in multi-agent simulations.
- Trained autonomous vehicle on a circular track, over 95% collision-free accuracy, across 10+ test runs.
- Solved Reinforcement Learning hackathon problem in 24 hours, only one to do so

Preventing Opioid Abuse - Arduino/C++, AutoDesk Inventor

- Modeled, 3D printed, and assembled a programmable pill bottle to prevent pill abuse
- Programmed the bottle's physical systems such as solenoids, timers, locks, etc.
- Placed 7th/78 in school-wide engineering competition, presented in front of 5 professional engineers

Chip8 Emulator - JS, HTML, CSS

- Low-level emulation of classic CHIP8 programs like Pong and Space Intercept
- Applied advanced skills in assembly programming: registers, working with the stack, opcode translation
- Developed problem-solving and debugging skills, ChatGPT estimated top 10% runtime performance

SKILLS

- **Programming Languages (Fluent in):** Python, C++, JavaScript, Typescript
- **Libraries/Frameworks:** TensorFlow, Keras, Flask, Git
- **Tools:** Docker, ETAP, Render, AWS, Azure, Arduino, GitLab CI/CD

PERSONAL

- **Interests**: Music, Boxing, American/English Literature, American History