Lucas Tembras

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EDUCATION

- **University of Florida - Herbert Wertheim College of Engineering** — Gainesville, FL
  Bachelor of Science in Computer Science — *August 2023 - May 2025*

- **Miami Dade College** — Miami, FL
  Associate of Arts in Computer Science — *August 2021 - May 2023*
  - GPA: 3.99; Highest Honors with Distinction

SKILLS SUMMARY

- **Languages**: Python, C++, JavaScript, SQL, Java, HTML, CSS, Lua, Go, Bash
- **Frameworks**: OpenCV, Plotly, Tkinter, Numpy, Matplotlib, Docker, Tensorflow, React, Express
- **Platforms**: MongoDB, Node.js, Kubernetes, Jupyter Notebook, PICO-8, Arduino, PostgreSQL

EXPERIENCE

- **MSEIP Computer Science Research Intern** — Rome, NY
  Air Force Research Laboratory — *May 2023 - August 2023*
  - Investigated the current state of secure containers and potential avenues for improvement to best suit the security demands of the Department of Defense
  - Recorded Docker container creation and start times as a baseline metric to assess the performance of secure container technologies using Golang
  - Performed a vulnerability analysis by automating an exploit in a sandbox environment using Python, Bash, Docker, and Kubernetes
  - Presented to and discussed findings with representatives of the Department of Education and branch chiefs of the Air Force Research Laboratory

- **Undergraduate Researcher** — Miami, FL
  COALESCE - Miami-Dade College, Wolfson Campus — *August 2022 - March 2023*
  - Developed a machine learning model capable of diagnosing Alzheimer's in brain MRI scans
  - Utilized JupyterNotebook, NumPy, TensorFlow, and the YOLO Image Segmentation Model in conjunction with the OASIS-2 data set to train the machine learning model
  - Labeled 200+ images of the MRI brain scans present within the *OASIS-2: Longitudinal MRI Data in Nondemented and Demented Older Adults* data set

- **Peer Academic Leader** — Miami, FL
  Miami Dade College, Wolfson Campus — *May 2022 - May 2023*
  Hosted 60-90 minute sessions for MAC1147, CHM1025, and CHM1045 throughout the semester to improve students' understanding of the material and provided support as a tutor in the Math Lab at the Wolfson Campus (12 hours weekly)

HIGHLIGHTED PROJECTS

- **Songsly**: Web application and data visualization tool written using Python, the Spotify API, and the MERN stack to help analyze patterns and trends in contemporary American pop music and albums queried by the user to aid artists looking to draw inspiration from select albums

- **Perfect Pigment**: Led a team of two developers in creating and designing a multi-level first-person shooter, which involved managing game states, creating an end-of-level scoreboard, programming enemy AI, player/ enemy animations, a trampoline, enemy attacks, player weapon functionality, sound effects, and background music using the Unity Engine and C#

- **3D Game Engine**: Developed a game engine capable of producing textured 3D graphics with collision detection while utilizing only 8% of the allotted tokens using a custom ray-casting algorithm on the PICO-8 platform, which does not have native support for 3D-graphics

CLUBS/ ORGANIZATIONS

- **Makers Club** — Miami, FL
  Co-President — *August 2021 - May 2023*
  - Communicated with the grant coordinator to ensure the timely arrival of parts for projects
  - Attended Miami Dade College events to promote the club, increase engagement with students, and attract new members
  - Served as the project manager and lead programmer for the autonomous race car:
    * Conducted research on both the software and hardware required
    * Oversaw the configuration and design of the car
    * Programmed the lane detection module
    * Facilitated meetings and designated tasks
  - Assembled the club's executive board for the 2022-2023 academic year