

# Michael Perkins

perkinsr.mike@gmail.com | (321) 432-3790 | [mikeperkins.xyz](http://mikeperkins.xyz) | Cocoa/Tampa, FL

## Education

---

University of South Florida – BS in Computer Engineering, Minor in Physics

December 2025

GPA: 3.56

## Technical Skills

---

**Languages:** Python, C, C++, JavaScript, TypeScript, Verilog, RISC-V

**Frameworks:** Node.js, Express.js, React

**Tools:** Visual Studio Code, GNU Nano, Arduino, MongoDB, Stripe, RESTful API's, RARS

**Hardware:** Arduino, Raspberry Pi, Spartan 6 FPGA

**Relevant Coursework:** Computer System Design, Control of Mobile Robotics, Computer Architecture, Computer Logic and Design, Hardware Accelerators for Machine Learning

## Engineering Projects

---

### AI-Optimized Cache System (ONGOING)

[GitHub](#)

- Currently developing an AI-driven cache management system using Xilinx ISE and Verilog. The system aims to optimize cache performance by leveraging reinforcement learning to predict which data should be retained in cache for improved hit rates.
- Developed a custom cache simulation with FIFO and LRU replacement policies, analyzing simulated cache hits and misses, and using this data to train an AI model to make intelligent cache management decisions.

### AvaAI

[joinava.ai](#)

- Architecting a multi-tenant e-commerce platform using React, TypeScript, and Node/Express, integrated agentic AI solutions to enable non-technical users to build complete storefronts and manage inventory through natural language conversation.
- Engineered an AI-driven store generation system that transforms brick-and-mortar businesses and their inventories into fully operational e-commerce stores with custom domains, reducing traditional development time from weeks to under **15** minutes.

### Password Management System

[GitHub](#)

- Led the creation of a C++ based Password Manager, allowing users to generate and store secure passwords with customizable options. Employed Caesar cipher encryption for robust data security. Implemented a user-friendly authentication system for seamless password management. Mentoring students throughout the project and fostering a programming mindset.

## Work Experience

---

Smart Lab Tutor, University of South Florida – Tampa, FL

Jan 2024 – Current

- Collaborate closely with fellow tutors to provide support for **hundreds** of students across multiple courses including Pre-Calculus, College Algebra, and Finite Math.

## Awards & Certifications

---

International Baccalaureate Diploma

The International Baccalaureate Organization