

# David Zapata

## EDUCATION

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### University of Florida

Bachelor of Science in Computer Science

Gainesville, FL

May 2026

**Relevant Coursework** – Data Structures & Algorithms, Operating Systems, Intro to Software Engineering, UX Design, Information & Database Systems, Computer Organization, Application of Discrete Structures, Algorithm Abstraction & Design

## TECHNICAL SKILLS

**Programming Languages:** JavaScript, Python, TypeScript, HTML, CSS, C++, SQL

**Tools and Frameworks:** React, Next.JS, Node.JS, RESTful API, Git, E2B, Docker, PostgreSQL

## EXPERIENCE

### Royal Mafia Clothing – Full Stack Developer

Next.JS, React, CSS, RESTful API, Supabase PostgreSQL, Stripe

Miami, FL

May 2025 - Present

- Architected and built a full-stack e-commerce platform using **Next.js** and **React**, featuring a server-authoritative, session-based shopping cart system.
- Designed **RESTful API** routes for all cart operations, ensuring all product data, pricing, and quantities are validated server-side before database persistence
- Implemented secure session management using **HTTP-only cookies** and UUID-based session IDs to enable persistent carts without user authentication
- Integrated **Stripe** Payments with **server-side** cart validation to ensure pricing accuracy and prevent **client-side** tampering during checkout
- Delivered an end-to-end solution spanning **frontend UX, backend APIs, database schema, and payment/shipping systems**, demonstrating ownership of full product lifecycle.

## PROJECTS

### AI App Builder – Full Stack Developer

TypeScript, Next.JS, React, Tailwind, Shadcn, tRPC, Inngest, Prisma, Neon, Docker, E2B, OpenAI API

Gainesville, FL

February 2024 – April 2024

- Built a Lovable clone that generates and runs AI-written code in secure **cloud sandboxes**, using **Docker-based templates** for isolated environments and live **Next.js** previews.
- Implemented **tRPC** for type-safe end-to-end queries and Inngest to power **background jobs** and **AI-driven workflows**.
- Engineered an AI-powered code generation system using OpenAI's GPT-4.1 API with **custom tool integration**, featuring a 114-line system prompt that guides the AI to act as a senior software engineer, complete with **terminal access, file manipulation** capabilities, and sandbox environment constraints for secure Next.js development.
- Developed a polished, user-friendly interface using **shadcn/ui** and **Tailwind**, maintaining reusable components for consistency and rapid iteration.

### Nepsis – Frontend Developer

TypeScript, React, React Router, CSS

Gainesville, FL

September 2023 – December 2023

- Developed a responsive gamified productivity app using **TypeScript** and **React**, managing state with React hooks like **useState()** and **useEffect()**.
- Implemented a Kanban-style task board with **CSS Grid, Flexbox, and CSS Modules**, featuring conditional styling through dynamic class binding.
- Implemented callback-based parent-child communication with **event handlers** to manage state synchronization and component updates.

## LEADERSHIP

### Machine Learning Trading Algorithm Research Analysis

Technical Lead

Gainesville, FL

August 2025 - Present

- Advised students on using a **Random Forest Regressor** to predict short term SPY price movements and support automated trade execution strategies.
- Guided students in safe and efficient GitHub collaboration, teaching best practices for branching, pull requests, and merge conflict resolution to maintain clean, organized project workflows.