

# GABRIEL CORTEZ

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## EMPLOYMENT

**Agritisan Farms, IoT Developer Intern**, Singapore

Jun. 2022 - Aug. 2022

- Enhanced efficiency and scalability of an IoT system within 8 weeks through strategic hardware and architectural optimizations.
- Improved cost-effectiveness of the system by 70% through strategic hardware selection.
- Implemented a virtual machine that utilizes NodeRED, MQTT, and MongoDB, with a foundational firewall for security.
- Thoroughly validated JSON message transmission from sensors to virtual machine, achieving near-perfect data integrity.

## SKILLS

**LANGUAGES:** C++, Java, Go

**MISCELLANEOUS:** GCP, Azure, Linux, Cloud, Virtual Machine, Git, AWS, NodeRED, MongoDB, IoT, MQTT

## PROJECTS

**NodeICU**

Sep. 2023 - Dec. 2023

- Collaboratively engineered a smart lock incorporating 2FA, Supabase, and dual ESP32s.
- Implemented Supabase edge functions, enabling bidirectional communication for confirmations with the ESP32 devices.
- Leveraged AWS Rekognition to integrate facial recognition capabilities
- Developed a user-friendly dashboard, serving as the interface for users to manage database entries and utilize 2FA OTP.

**Basic Group Event Planner**

Jan. 2023 - Apr. 2023

- Spearheaded the development of an event planning website, enabling seamless group coordination and collaboration.
- Leveraged a tech stack including Go, Angular, GORM, and CRUD to architect and construct the platform.
- Successfully implemented Agile methodologies, while meticulously maintaining comprehensive project documentation.

**HTTP Server**

Jun. 2024 - Jun. 2024

- Built a HTTP server that responds to requests according to the URL path within the request
- Server is able to handle compression using gzip, handle concurrent connections, parse through varying headers, return requested files, store requests with a body,

**Go Container**

Jun. 2024 - Jun. 2024

- Built a Docker container from scratch using Go to allow an executable to be run in an isolated environment.
- Created namespaces and control groups to limit what the container can see and use.

**Firebase Chatbox**

Oct. 2023 - Oct. 2023

- Built a websocket-enabled website enabling real-time messaging between two users with ngrok links.
- Utilized Firebase for message storage, providing users access to prior messages when returning to the website.

**National Park VR**

Jan. 2023 - Apr. 2023

- Designed and crafted a captivating 3D virtual reality experience within the Unity framework to deliver a calming atmosphere.
- Seamlessly collaborated within a cohesive team of four, utilizing PlasticSCM.
- Elicited unanimous positive feedback from all users attesting to the calming impact of the VR experience.

## EDUCATION

**University of Florida**

Aug. 2021 - Dec. 2024

B.S. Computer Science

**State College of Florida**

Aug. 2020 - Aug. 2021

A.A.

## ACTIVITIES

**UF Association for Computing Machinery (ACM), Member**

Sep. 2021 - Current

- Develops professional and communication skills with other students through provided opportunities and workshops.