

# Fabian Contreras

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## Education

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### Georgia Institute of Technology

Atlanta, GA

Candidate for Bachelor of Applied Science in Computer Engineering, GPA: 3.0

Expected Graduation, May 2026

- **Concentrations:** Computing Hardware and Architecture, System and Software Design

## Objective

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Motivated ECE student seeking a Summer Internship in chip design or computer architecture to experience and develop efficient and scalable architectures, as well as contribute to real-world applicable silicon development projects, where I can apply my knowledge on scalable systems.

## Skills

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**Technical:** Java, Python, C, MIPS/RISC-V Assembly, Verilog, C++, HTML, CSS, MATLAB, Solidworks, CAD, JavaScript

**Platforms:** Linux(Ubuntu), Docker

**Hardware:** FPGA's, Software Defined Radios / Networks

**Languages:** Fluent English, Fluent Spanish, and Conversational French

## Research

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### Vertically Integrated Projects (VIP): Intelligent Digital Communications

Atlanta, GA

DSP + FPGA Member

July 2024 - Present

- Sought real-time problems occurring at GT across 15+ members and worked with 5+ members to develop multiple approaches
- Closely worked with the Machine Learning team with CNN's and interrelated FPGA's for efficient solutions
- Enhanced wireless communications through radio techniques, ML, digital signal processing, and RF communications.

## Projects

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### Wordle Embedded System

Atlanta, GA

Embedded Systems Engineer

Aug 2024 - Dec 2024

- Designed and developed an embedded system using ARM components to create an interactive Wordle-like game interface on a uLCD display.
- Programmed and implemented efficient C code for game logic, graphical rendering, and special features.
- Optimized system efficiency to deliver responsive display updates and accurate game feedback. This includes pushbuttons that were developed to reveal up to two hints.
- Developed a dictionary with more than 100+ five-letter words, and utilized a tactile switch for functionality for joystick-like letter selection.

### Travel Suggestion Survey

Atlanta, GA

Full Stack Developer

Jan. 2023- May 2023

- Developed an interactive travel recommendation survey using HTML, CSS, and JavaScript to dynamically generate travel destinations based on user input.
- Utilized JavaScript to capture and process user preferences, and generate personalized travel suggestions in real time
- Implemented a custom user interface with CSS to create a visually appealing and responsive design.
- Ensured a harmonious user experience through responsive design techniques and adapting the layout for various screen sizes and devices

### Digital Design and Graphics course

Atlanta, GA

Team Member

Aug. 2022 - Jan. 2023

- Devised and engineered a team project that allowed a concept to evolve into a complete virtual model with 4 other members with the software Solidworks 2021
- Created 10+ tolerances which had to be adjusted and scaled to ensure correct fitting within the full assembly
- Involved several assemblies that had to be merged into one strong-final assembly
- Tested scenarios such as pressure and temperature. in which our finished products will strive or fail
- Coordinated meetings to deliver the final project within a limited time frame and led mock presentations

## Relevant Coursework

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- **Software Coursework:** Data Structures and Algorithms, Object Oriented Programming, Computing in Python, Artificial Intelligence Foundations, Statistics and Applications
- **Hardware Coursework:** Semiconductor Physics, Digital Information Processing, Programming HW / SW systems, Circuit Analysis, Digital System Design