

Ethan Gutierrez

Atlanta, GA

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Education

Georgia Institute of Technology, Atlanta, GA (4.00/4.00 GPA) June 2022 – (Expected) May 2026

- Major: Computer Science with a focus on Artificial Intelligence and the Internet of Things (IOT)

Skills

Programming: Python, Java, C++, JavaScript, HTML, CSS, SQL

Software: Git, Visual Studio, XCode, Arduino IDE, Autodesk Inventor CAD, Postman, Node.js, SQLite

Frameworks: PyTorch, TensorFlow, NumPy, Matplotlib, Express.js, Flask, EJS

Soft Skills: Constant learner, Project management, Report writing, Flexibility, Self-motivated

Language: French (Intermediate) Spanish (Intermediate)

Certifications: CS50 (Harvard online course that covered image manipulation, dynamic web generation, database implementation), The Recreational UAS Safety Test (TRUST)

Projects

TBD Aerospace August 2022 - Now

- Embedded developer for a team working on creating a network of Unmanned Aircraft System (UAS)
- Wrote Python and C++ programs to link a ground station to the fixed-wing plane with Arduino and Radio
- Researching Control Theory, Peer to Peer networking, and Communication Protocols

Robotics November 2018 - May 2022

- **FRC:** Integrated multiple open-source projects to autonomously, accurately, and consistently control a robot based on vision processing and local sensor data
- **VEX:** Programmed a world class autonomous robot that used odometry, vision processing, and a custom highly efficient pure pursuit movement algorithm that takes advantage of holonomic robot movement

IoT Website June 2020 - August 2021

- Connected ESP microcontrollers to a website to pass along commands and present status updates
- I integrated Web Sockets, JSON web token-based authentication and authorization, and dynamic page generation.

Research

Machine Learning Safety Scholars April 2022 – August 2022

- Learned the basics of machine learning through creating, training, and optimizing models of our own
- Wrote reports and discussed 14 modern machine learning research papers
- **Final project:** the injection, detection, and mitigation of modern trojans in machine learning models

Leadership/Activities

Boy Scouts of America September 2013 - June 2022

- Eagle Scout
- Researched, Planned, Proposed, and worked with beneficiaries to manage a project from start to finish
- Lead scouts and adults to build long-lasting trash cans for a local church's outdoor trail
- Gain skills in leadership, safety, survival, outdoorsmanship, and citizenship

Robotics Team Captain / Lead Programmer January 2019 - May 2022

- Managed over 30 students in both VEX and FRC robotics teams
- Worked with sub-teams on programming, CAD, building, and electrical systems
- As Lead Programmer, I taught and lead students to develop autonomous robot programs