Anthony Ibarra | Electrical & Computer Engineer

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Summary

Electrical and Computer Engineering graduate student willing to learn and gain knowledge and techniques to grow as an engineer. Striving to try new things and embrace them to grow and become a part of something remarkable. Strong interest in AI & ML & Neural Networks, Control, Robotics, Programming, and Embedded Systems. I enjoy finding ways to improve hardware and software either in new or old implementations.

EDUCATION

University of Illinois Chicago (UIC)- Jan 2023 - May 2025(Expected)

Master of Science in Electrical and Computer Engineering

Relevant Coursework: Linear Systems Theory & Design, Electromagnetic Compatibility ,Advanced Computer Communication, Convex Optimization, Mechatronics Embedded Design, Intro Neural Networks

University of Illinois Chicago (UIC) - Aug 2017 - May 2022

Bachelor of Science in Computer Engineering

Relevant Coursework: Artificial Intelligence I, Principles of Modern Control & Principles of Auto Control, Pattern Recognition I, Computer Comm Networks I, Robotics: Algorithm/Control

SKILLS

Computer programming: Python, C/C++/C# , object oriented programming, Assembly, Ubuntu, AI (artificial intelligence) & ML(machine learning)

Software Knowledge: VS Code, GitHub, MATLAB, Solidworks, Mathematica, Altium, Ltspice, Quartus, code-composer, Arduino IDE, VNC viewer(raspberry Pi), **(**normal understanding of Microsoft Word, PowerPoint, Excel**)**

Speach: Proficient in spanish (can read, write, and have normal conversation)

Academic Projects

Optimization on Three Coil Long Range (WPT), Electromagnetic Compatibility Jan 2024 - May 2024

- Attempt to recreate the results provided within the given research paper which is specified in the project description
- Provide Mathematically simulated plot from Matlab regarding the Three coils as shown within the research paper
- Show simulation and plots with HFSS Ansys simulator, regarding the coil behavior
- Provide an IEEE format report using Latex, in a professionally typeset manner.

Self Driving Car, Mechatronics Embedded Design Jan 2023 - May 2023

- Lead the team and manage all time constraint task, development and design task, make timely decisions for the team's success
- Develop a motor controller with a FET Driver implemented, a controller from either of (single fet, half bridge, or full H-bridge), and gets controlled via a PWM input signal from the microcontroller
- Develop a Boost Converter DC-DC for the power systems
- Develop and tune a PD controller for the steering(servo motor), and a P controller for the velocity controller(dc motor)
- Design a circuit through Altium Designer and get it manufactured
- Create a perf board circuit as a backup board for the pcb
- Solder all surface mount and through hole components onto the printed PCB board
- Implement a filter for the line Camera or velocity measured input
- Implement Sensors and Encoders

Automated Watering System, Senior Design August 2021 - May 2022

- Work in a four-student team to prototype a device that water specified plants by taking moisture levels, outdoor weather conditions, and plant information into account.
- Manage team to make sure all assignments are done on time and completed, and submit weekly assignments based on progress of project development.
- Program Arduino Nano iot 33 to decide whether to water or not water plants based on moisture levels
- Create APP (Kivy framework was used) to show information regarding the system, plants and weather
- Program a UDP client-server communication between Arduino and APP

  APP video demonstration