

Anthony Ibarra | Electrical & Computer Engineer

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EDUCATION

University of Illinois Chicago (UIC)

Jan 2023 - May 2025

Master of Science in Electrical and Computer Engineering

Relevant Coursework:

Audio & Acoustic Signal Processing, Intro to Filter Synthesis, Adaptive Digital Filters, Electromechanical Energy Conversion, 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, Embedded Systems

SKILLS

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

Software Knowledge: VS Code, GitHub, MATLAB, Solidworks, Mathematica, Altium, Ltspice, HFSS Ansys simulator, Quartus, code-composer, Arduino IDE, VNC viewer(raspberry Pi), (Microsoft Word, PowerPoint, Excel, etc.), Rockwell Automation RSLogix Rslinx

Speech: B1 Proficient in spanish

Projects

Research Project, Acoustic & Audio Signal Processing

Jan 2025 - May 2025

- Paper of roughly the scope and style(not necessarily format) of a Signal Processing Society conference paper
- Develop a new method or solution with concepts from class to be applied to an existing problem

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 implementation, 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 & P controller for the steering(servo motor), and velocity controller(dc motor) respectively
- Design a circuit through Altium Designer and get it manufactured, create a perf board circuit as a backup board for pcb failure
- Implement Sensors and Encoders Implement a filter for the line Camera or velocity measured input

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