Anthony Ibarra | Computer Engineer

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Portfolio(https://aibarr23.github.io/Portfolio/)

Summary

Passionate Computer Engineer 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 - Present**

Master of Science in Computer Engineering

Relevant Coursework: Artificial Neural Networks, Mechatronics Embedded Design

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, 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)

Projects

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

Lead a team of 4 to design and develop an RC car to follow a line on a track. The car includes a DC motor for the four wheel drive, Servo for steering, and a Line camera for track detection.

- 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 tine a PD controller for the steering, and a P controller for the velocity controller
- 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