ECE Baddies - Winter Quarter 2024

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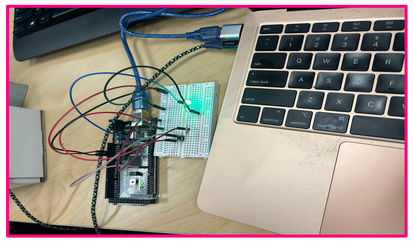
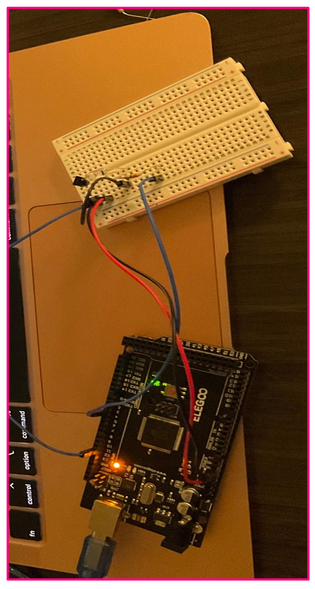
Lab 0
Microcontrollers



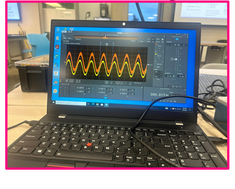
A valuable thing we got from this lab was being able to be hands on with wires and the breadboard.

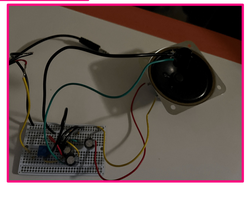
Lab 1
Communication



Have you ever wondered about communicating through lights? Well this lab truly showed the greatness of being able to do so.

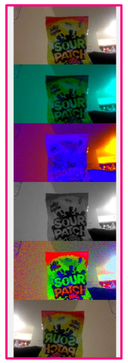
Lab 2
Digital Signal Processing



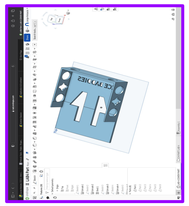


The objective of this lab is to get used to Matlab and be able to graph using the software. We'll be focusing on generating plots and graphs by utilizing data collected from a photoresistor sensor connected to our Arduino board. This exercise provides valuable insight into the interplay between Arduino and MATLAB, where Arduino acts as the data source and MATLAB enables us to visualize that data through graphical representations on plots.

Lab 3
Analog Circuits

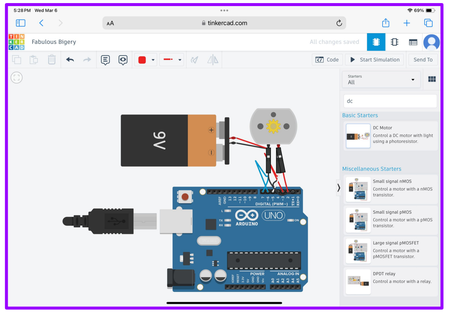


3D Print Chassis



Team Logo

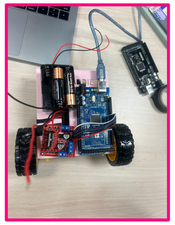
Circuit Diagram

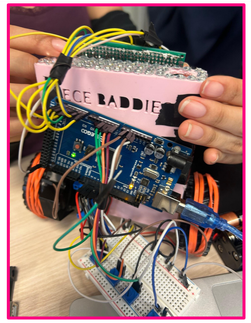


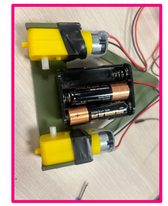
Description

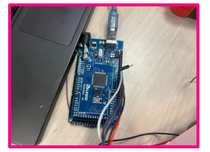
By completing the circuit diagram we were able as a group determine an electronic way of being able to model our car. It was amazing to see the same tools we used in a new type of form. being introduced to this new way of modeling made us more innovative on the way we can pre plan how we were continuing to build the robot.

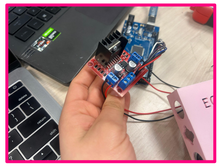
Lab 4 - Robots & Control

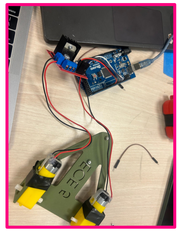








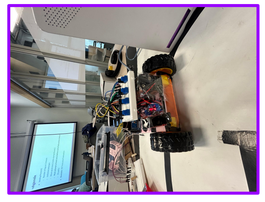


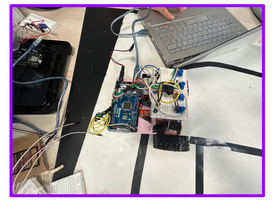


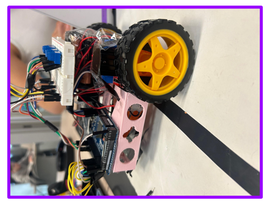
Discussion

Wow! This lab was as difficult, creative, and demanding as it could get. WE were all semi prepared before reaching this part. All of us had our own quirks hat benefited this car which made it the most creative and swiftly working car there is. WE were extremely proud of each step we accomplished. From just screwing the tires on too calibrating the car, each step was an unforgettable learning experience!!

Final Robot







Woah, the final product!!! WE worked so hard and articulated every step we took. WE had a finished product but the code somehow got mixed up and instead of just giving up we strided to complete the assignment. We put in multiple days as well as some nights to try and accomplish this ending. "Every Robot has its strengths" This robot has a drive metaphorically and physically. WE are so excited to test and let this ECE baddie car run!!!

CAD Model