

# ECE180DA : Lab 2 Report

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## Tasks Planned

- Complete Project Proposal
- Github Setup
  - Simple CI/CD automations (doesnt have to do much for now)
  - Kanban Board and workflow specification
  - Clang format and clang-tidy for any C/C++/CUDA to be written
  - Start format for Wiki
  - Rough File Structure
- Week 3 Tutorial
- Finish wireless of Week 2 Tutorial

## Tasks Completed

- Project proposal and rough timeline was completed and turned in
- Github was setup with proper project board and some simple automations for code linting and code compiling (all sub-tasks listed above were completed)
- Week 3 Tutorial
  - Completed the server-client model script. This was done locally on my windows device through WSL. The code as described did not function properly with python3. As a result I had to modify both the port number and the strings passed through the port. This was accomplished through using the `.decode()` and `.encode()` functions.
  - Completed the MQTT publisher and subscriber exercise. I managed to get the publisher and subscriber running on a terminal SSHed into my raspberry pi and on my local windows terminal. This allowed me to communicate between the two devices via MQTT.
  - Modified the publisher script to send a variety of data. Could be useful to send JSON files containing a sender ID and Reciever ID to communicate between devices.
- week 2 Tutorial completed as Pi zero W has arrived.

- completed the tasks and connected to my local wifi. This was a little difficult as I did not realize the pi cannot interface with 5G wifi. This was resolved by using the 2G band.
- Tested using my camera with the pi, took an image and pushed it to the github
- installed berryconda and all related software necessary to complete the tasks
- still running into an issue with the `cv2.closeAllWindows()` function

## Future Direction

- Explore hand tracking with OpenCV
- reassess speed running on piZero with OpenCV and python
- Complete Week 4
- consider applications of MQTT or a server client model for adding texting to someones AR vision (could be a simpler project that would start us out for the library and have a focus on communication)