DIGITAL ETCH A SKETCH

by AaronB299 (/member/AaronB299/) Follow

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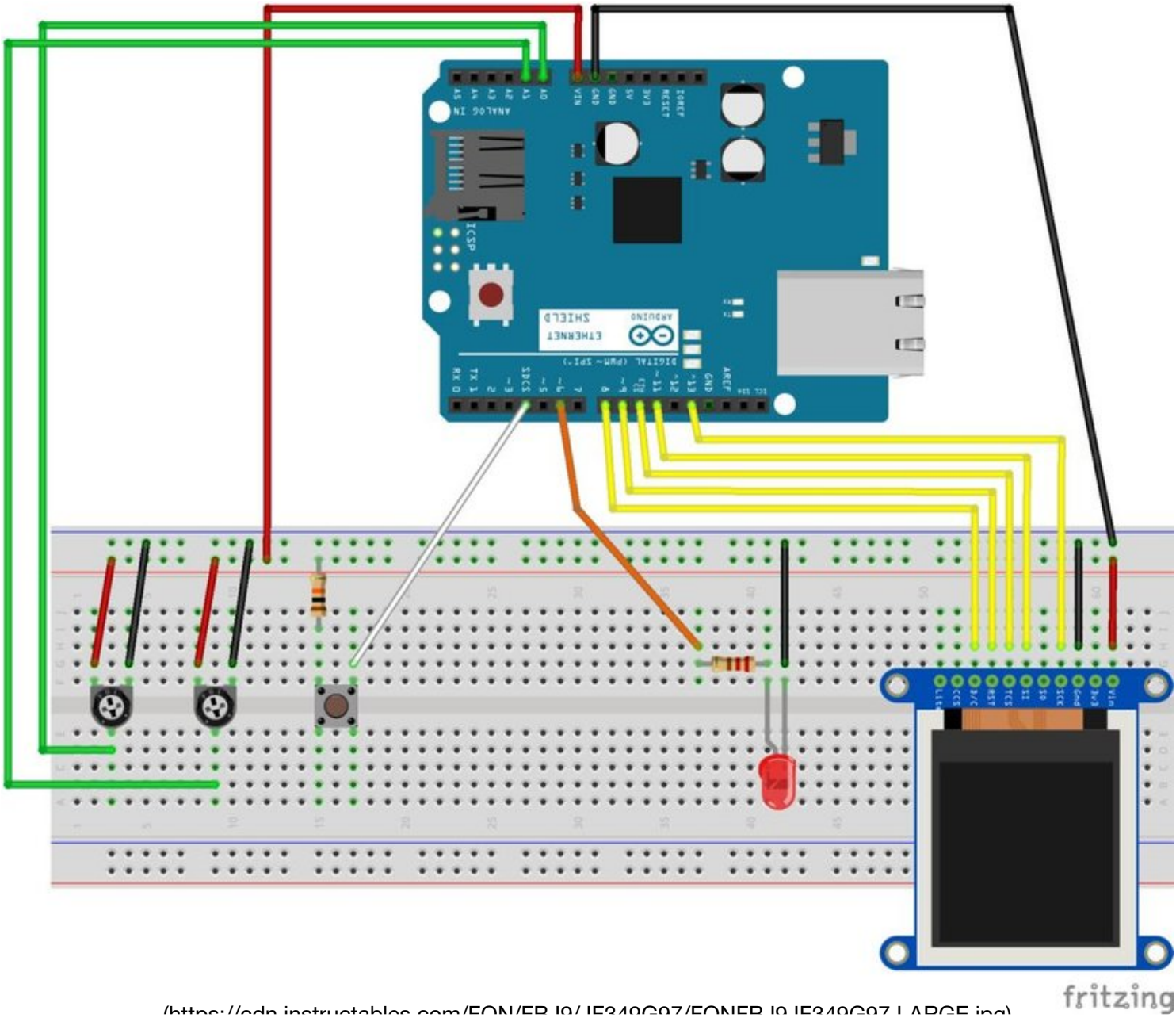

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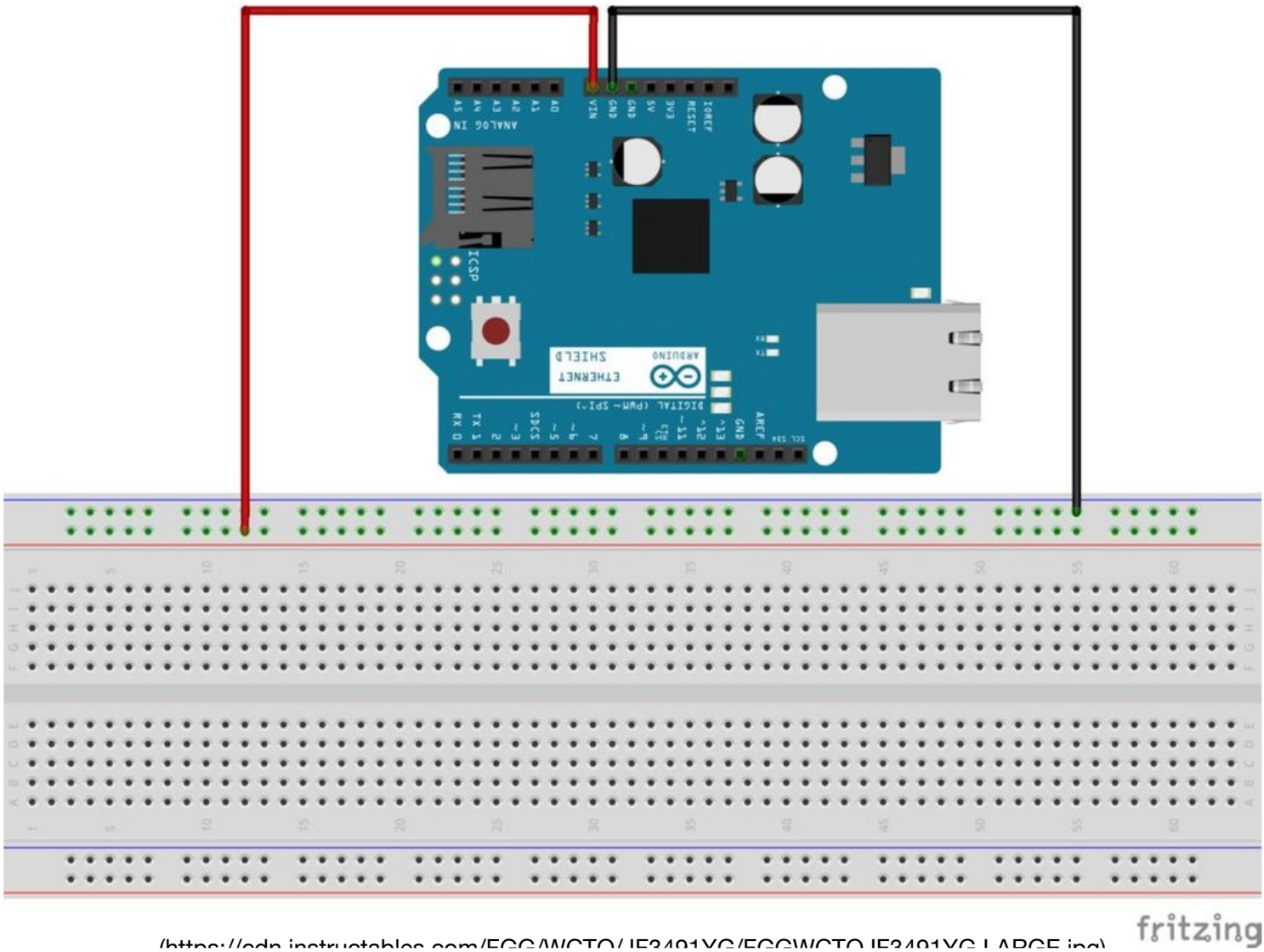
Today I will instruct you how to build a digital Etch a Sketch. You can draw through the two potentiometers. The potentiometers on the left in this project directs the pen on the x plane while the potentiometers on the right directs the pen on the y plane. If you have cheap potentiometers like I do, you may have to hold them down or push hard to ensure the pen does not draw all over the place. Soldering the potentiometers to the breadboard might be a good idea.

If you press the erase button, you have four seconds to change your mind about erasing your wonderful sketch. During the erasing process, the LED will blink on and off. If you do not press the button within four seconds, your sketch will be erased so you can draw new work.

Step 1: Basic Setup



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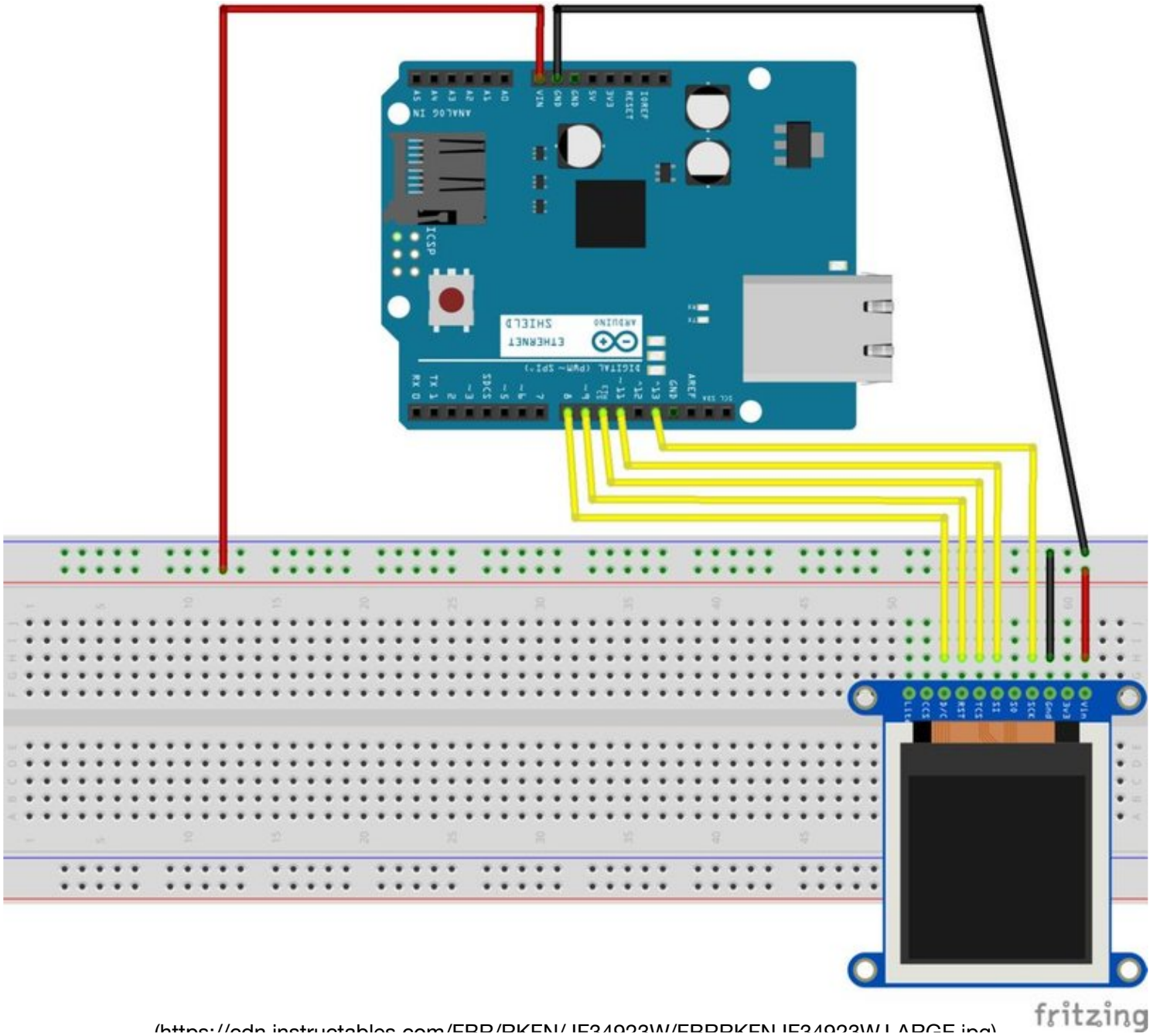
1. Add an Arduino UNO R3

2. Add a large breadboard

3. Connect the 5V to the power rail on the breadboard

4. Connect the GND to the negative rail on the breadboard

Step 2: Add TFT Display



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1. Add 1.44" TFT display to breadboard

2. Connect vin to the power rail

3. Connect Gnd to negative rail

4. Connect SCK to pin 13 on the Arduino

5. Connect SI to pin 11

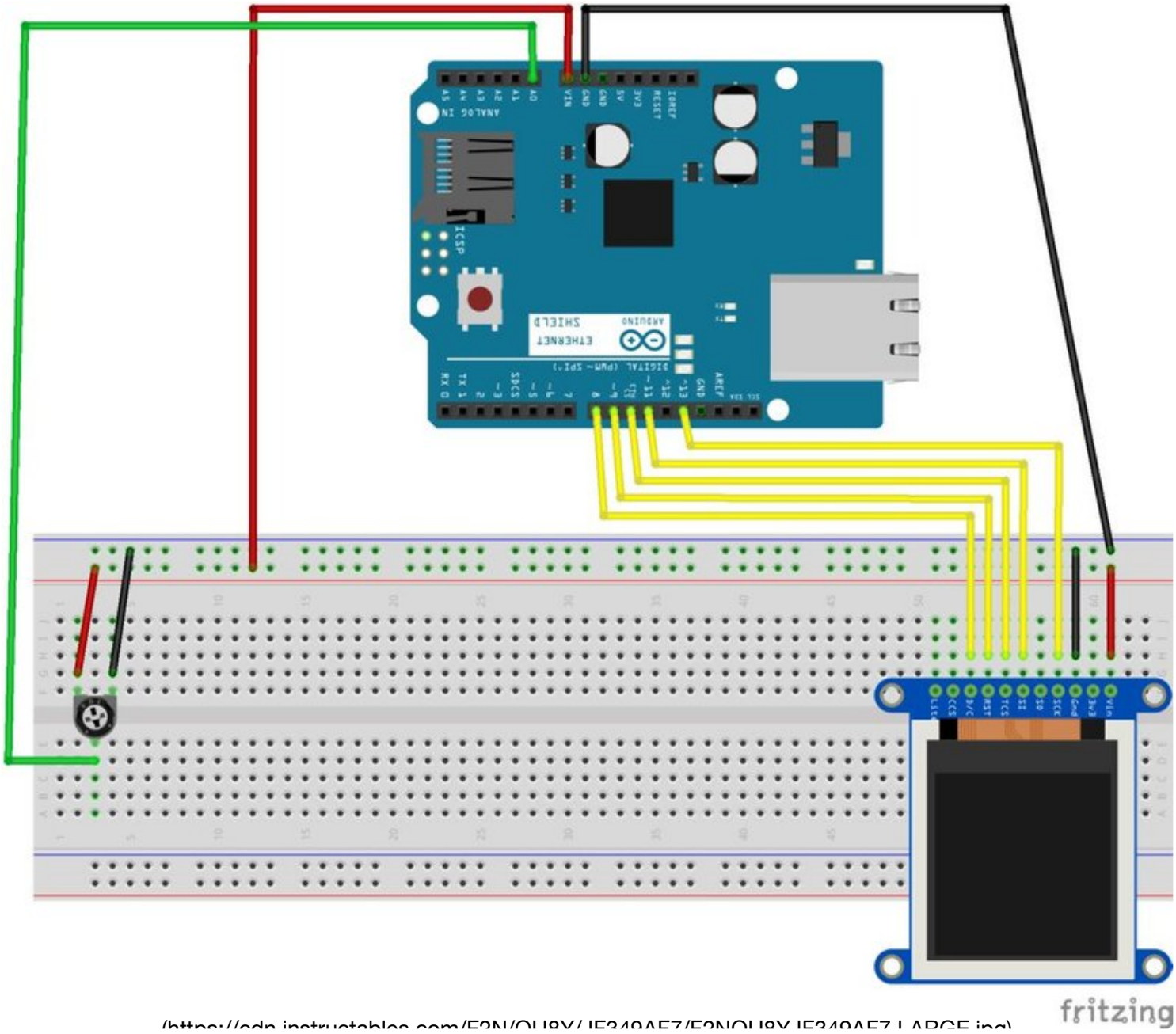
6. Connect TCS to pin 10

7. Connect RST to pin 9

8. Connect D/C to pin 8

Double check the connections! This is a likely area to make mistakes.

Step 3: Add a the X-Value Potentiometer



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This first potentiometer is to control the pen position in the x coordinate. How to set it up:

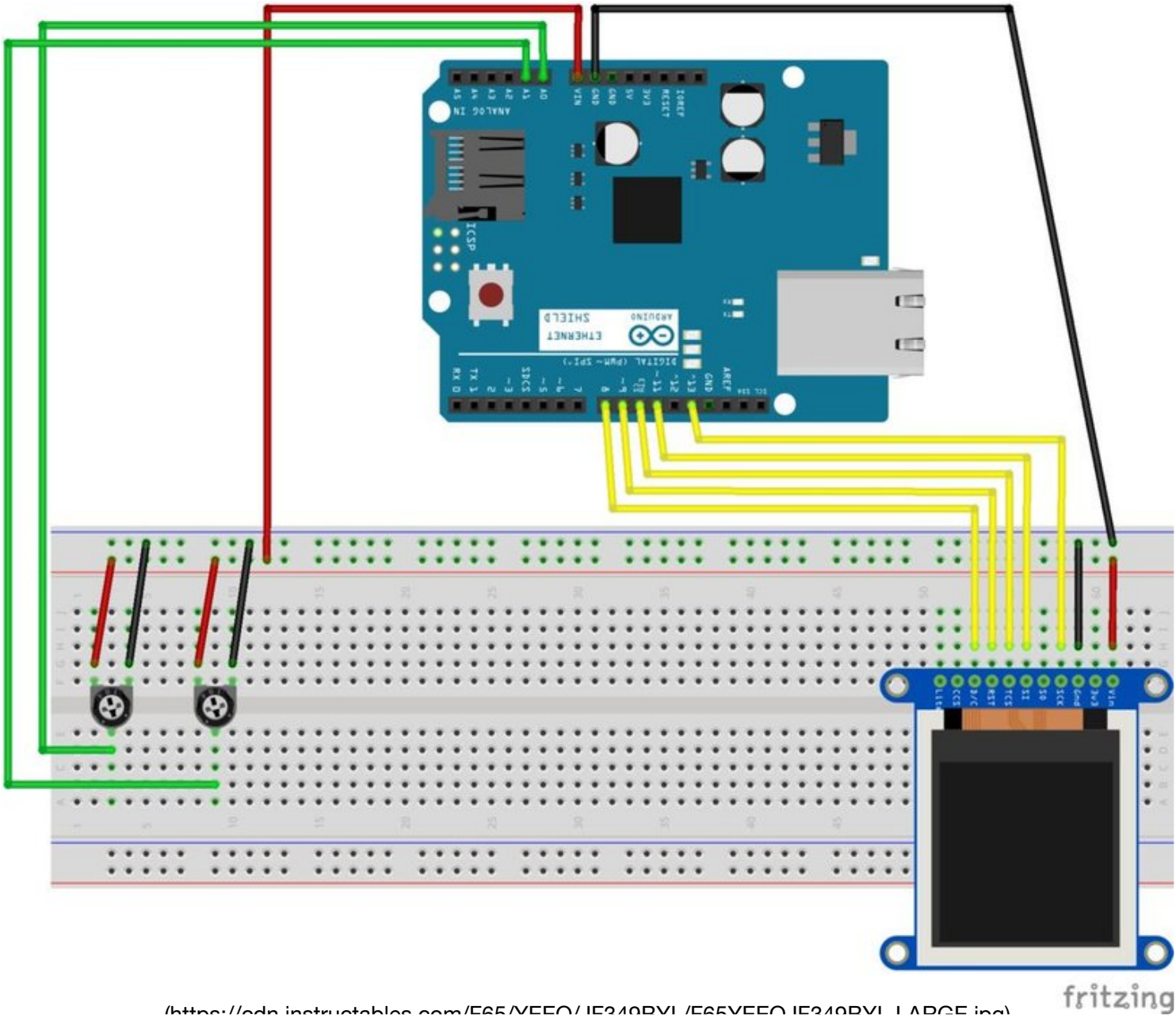
1. Add a potentiometer to the breadboard

2. Connect the left side of the potentiometer to the power rail of the breadboard

3. Connect the right side of the potentiometer to the negative line

4. Connect the lower potentiometer connection to A0 on the Arduino

Step 4: Setup Y-Value Potentiometer



This second potentiometer is to control the pen position in the y coordinate. The setup is almost exactly the same as the first. The only difference is to connect it to pin A1 instead of A0:

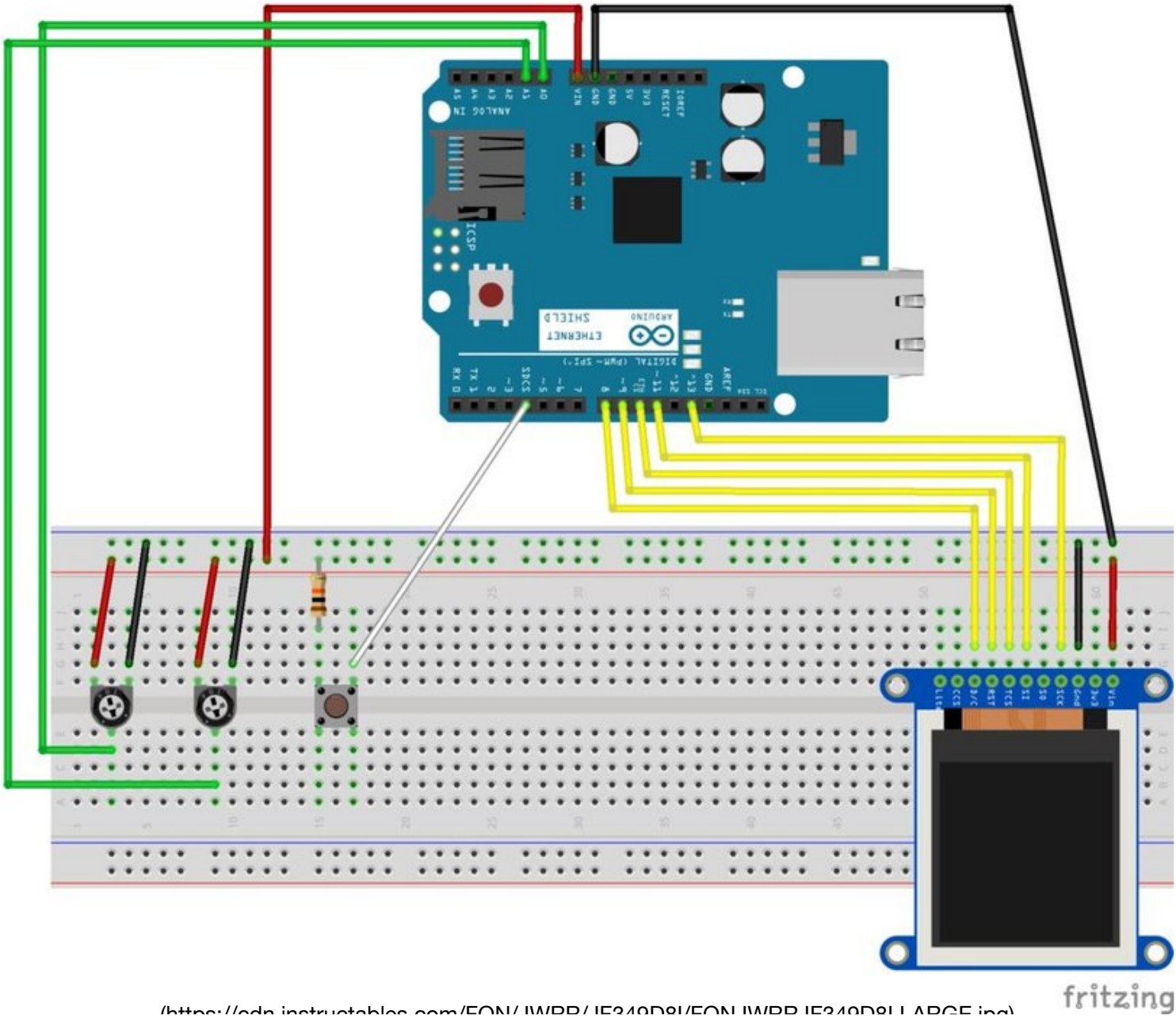
1. Add a potentiometer to the breadboard

2. Connect the left side of the potentiometer to the power rail of the breadboard

3. Connect the right side of the potentiometer to the negative line

4. Connect the lower potentiometer connection to A1 on the Arduino

Step 5: Add a Push Button



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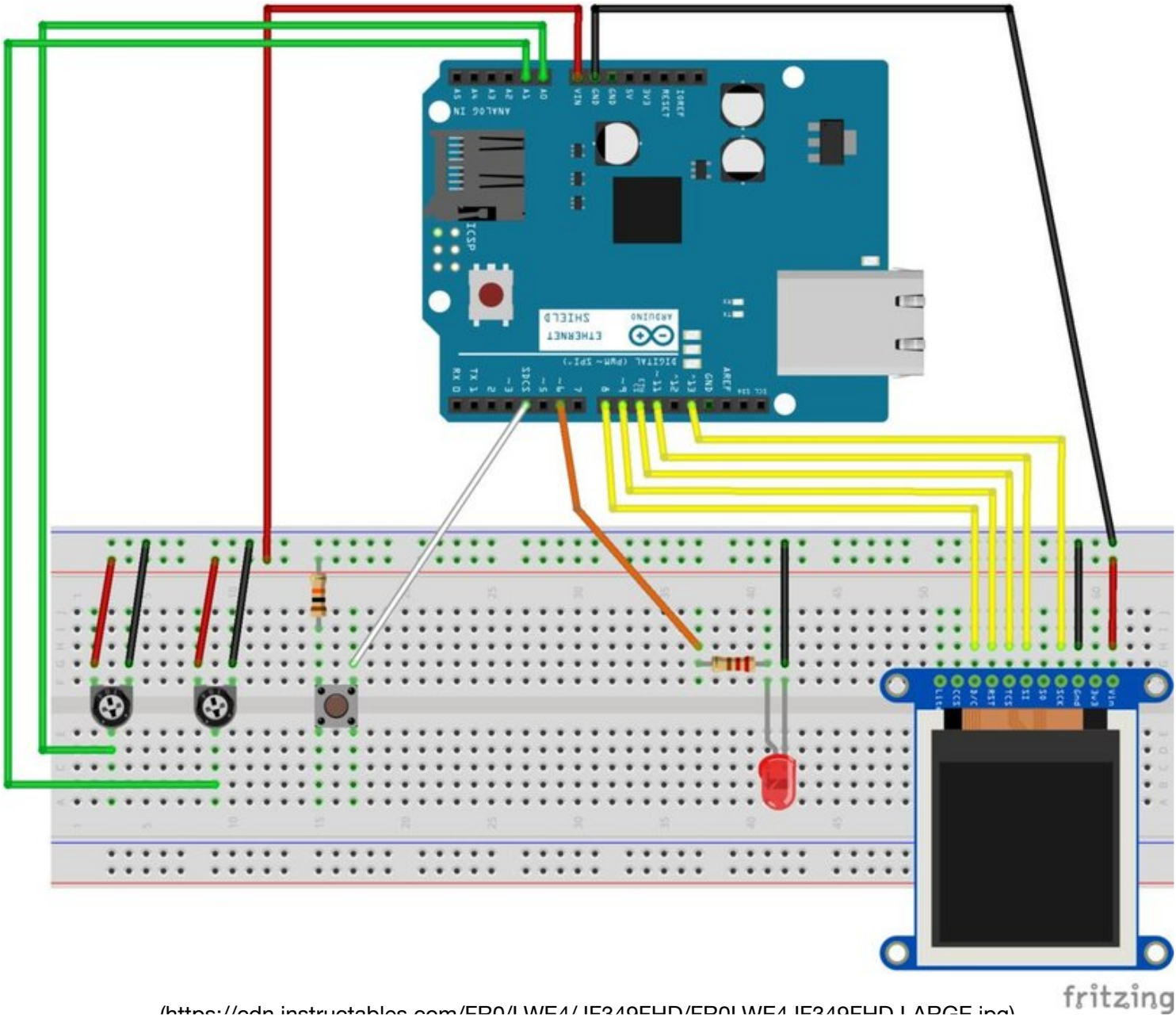
1. Add a push button to the breadboard

2. Connect the top left connector of the button to the negative rail of the breadboard through a 10k resistor

3. Connect the top right connector of the button to pin 4 on the Arduino

Step 6: Add LED



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1. Add a LED to the breadboard

2. Connect the positive wire of the LED to a 220Ω resistor

3. Connect the 220Ω resistor to pin 6 on the Arduino

4. Connect the negative wire of the LED to the negative rail on the breadboard

Step 7: Add the Code

1. Connect the Arduino UNO R3 to a computer

2. Download and open up provided Arduino code in the Arduino IDE

3. Upload the code to the Arduino

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Download (https://cdn.instructables.com/ORIG/FSH/UOC8/JF349IDH/FSHUOC8JF349IDH.ino)
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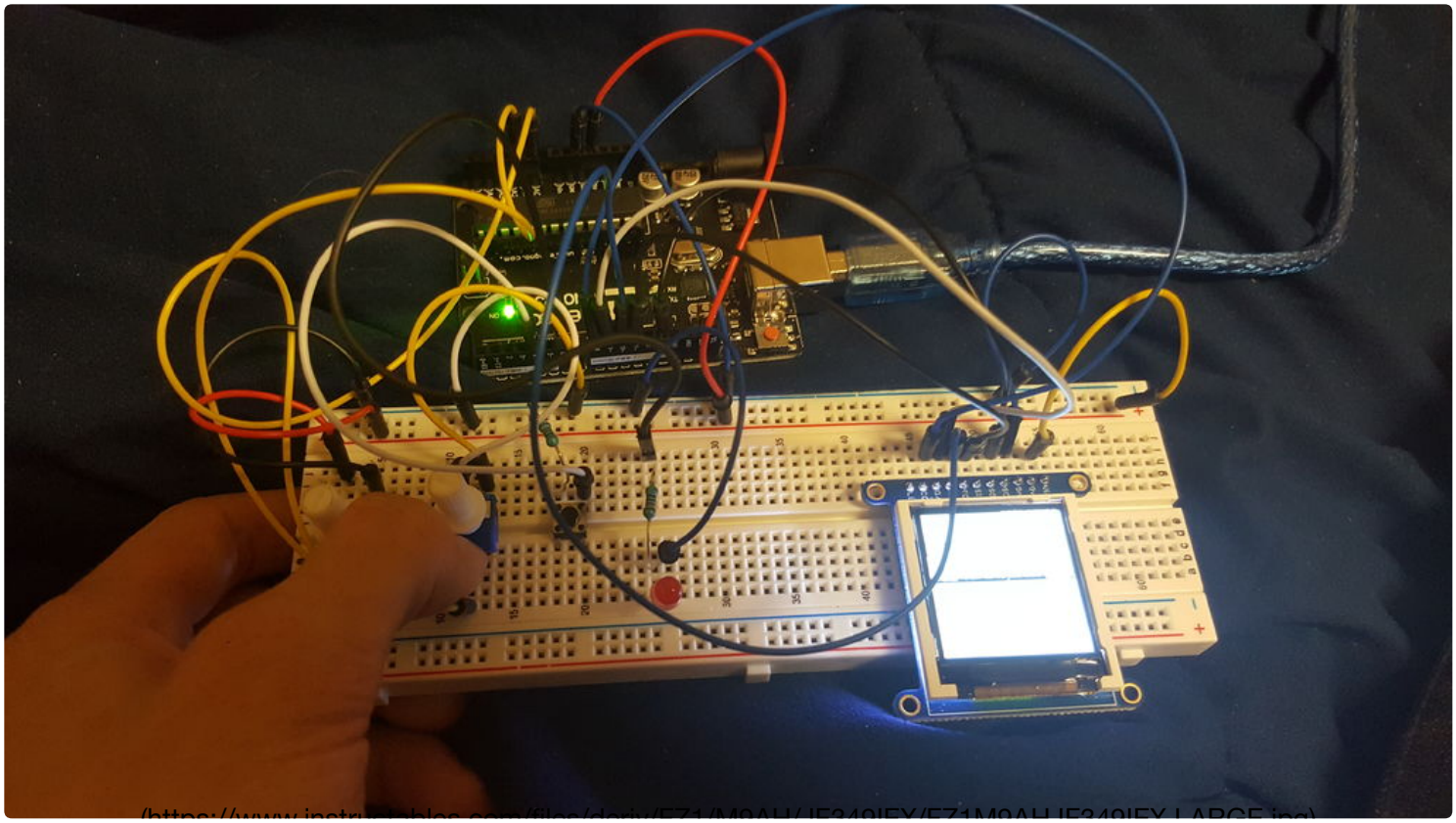
Step 8: The Completed Project



You are done! Your completed Etch A Sketch project should look similar to my project. Notice how I have to hold one finger down on one the potentiometer because once it is lose, it returns random values to the analog input.

Step 9: The Frtizing Diagrams

If you want to view the Frtizing diagram to debug your work, download it.

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