Improving the Slider’s Linearity

* Check Potentiometer Taper: Ensure that your potentiometer is linear. Some potentiometers have a logarithmic taper, which could cause non-linearity in the output.
* Adjusting the ADS1115 Gain: Experiment with different gain settings on the ADS1115. Higher gain settings can amplify smaller voltage changes, potentially providing a more linear response. However, keep in mind that higher gain settings can also increase noise and reduce resolution.
* Calibration: Implement calibration in your code. Measure the actual output voltage at various points along the potentiometer's range and create a mapping function to convert the raw readings to linear voltage values.
* Use a Smoothing Algorithm: Implement a smoothing algorithm in your code to average out any noise or irregularities in the readings from the ADS1115.
* Check Electrical Connections: Ensure all electrical connections are secure and there are no loose connections or interference that could be affecting the readings.
* Consider Voltage Divider Circuit: Instead of directly connecting the potentiometer to the ADS1115, you could use a voltage divider circuit to scale the output voltage range of the potentiometer to better match the input range of the ADS1115.
* Software Compensation: If none of the above solutions provide satisfactory results, you may need to implement software compensation in your code to adjust for the non-linearity.

Experiment with these steps to see if you can achieve a more linear response from your setup.