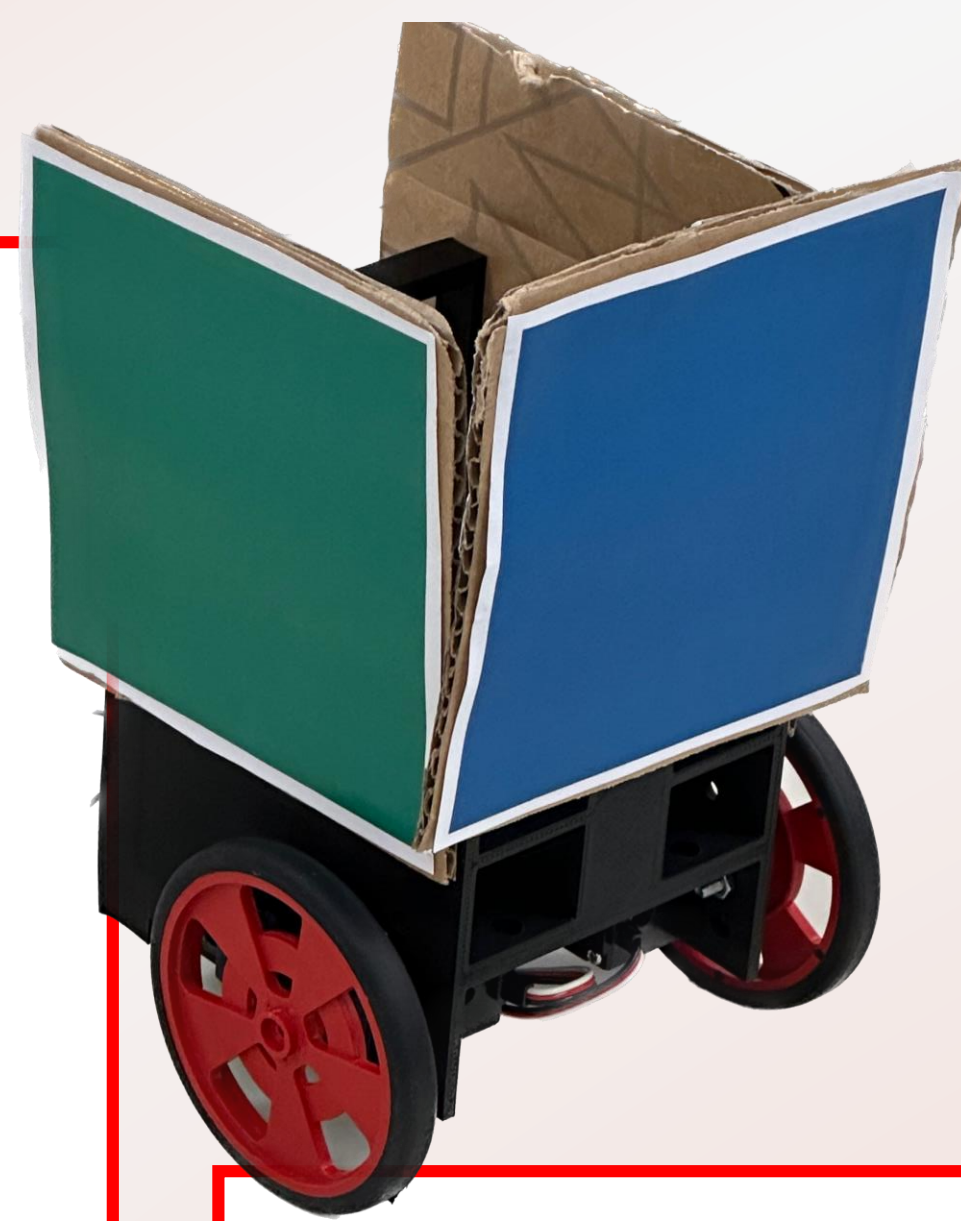


Low-Cost Distance Sensor Characterization of Ultrasonic and Infrared to Evaluate the “Reality Gap” in Robot System Simulation

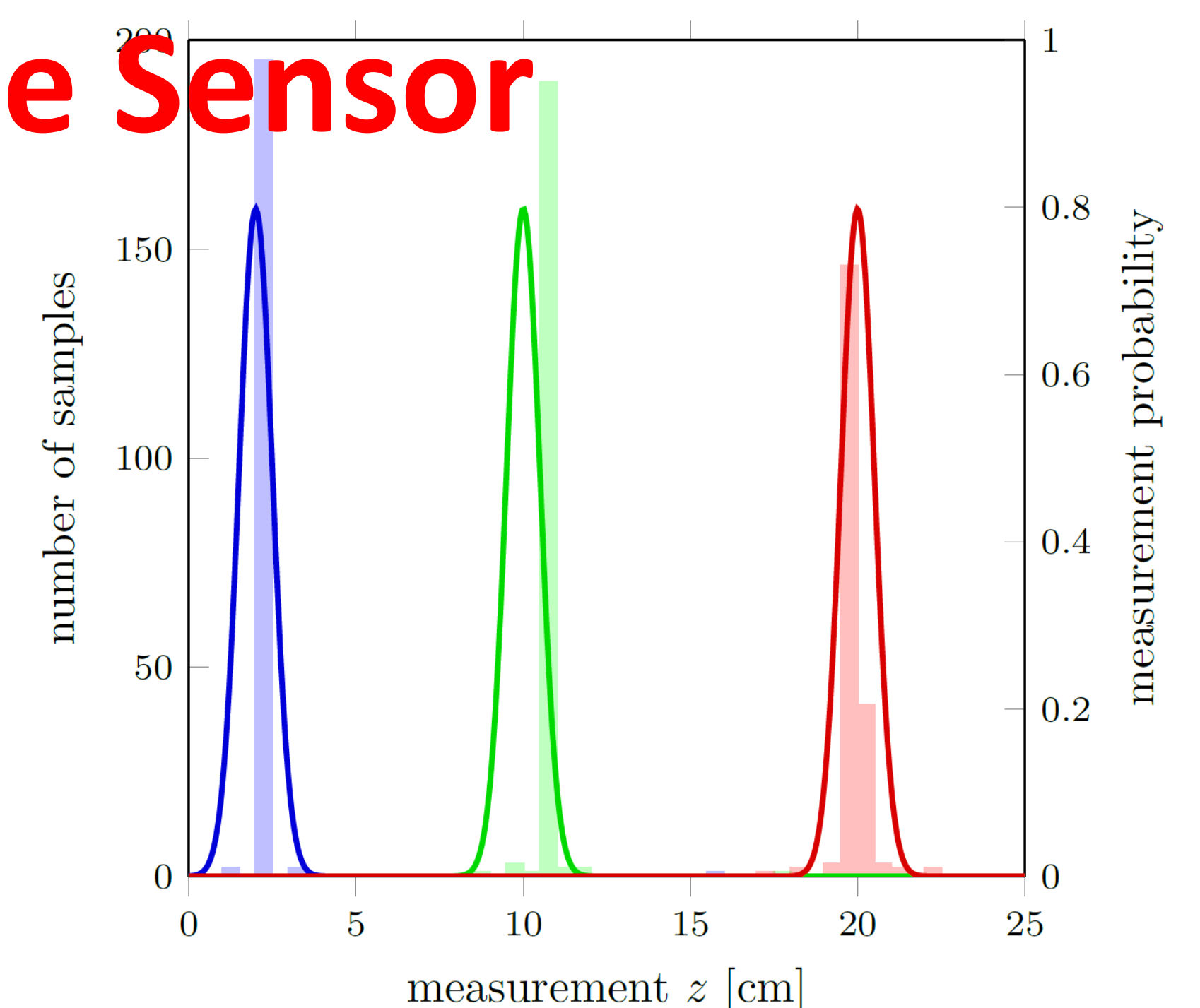
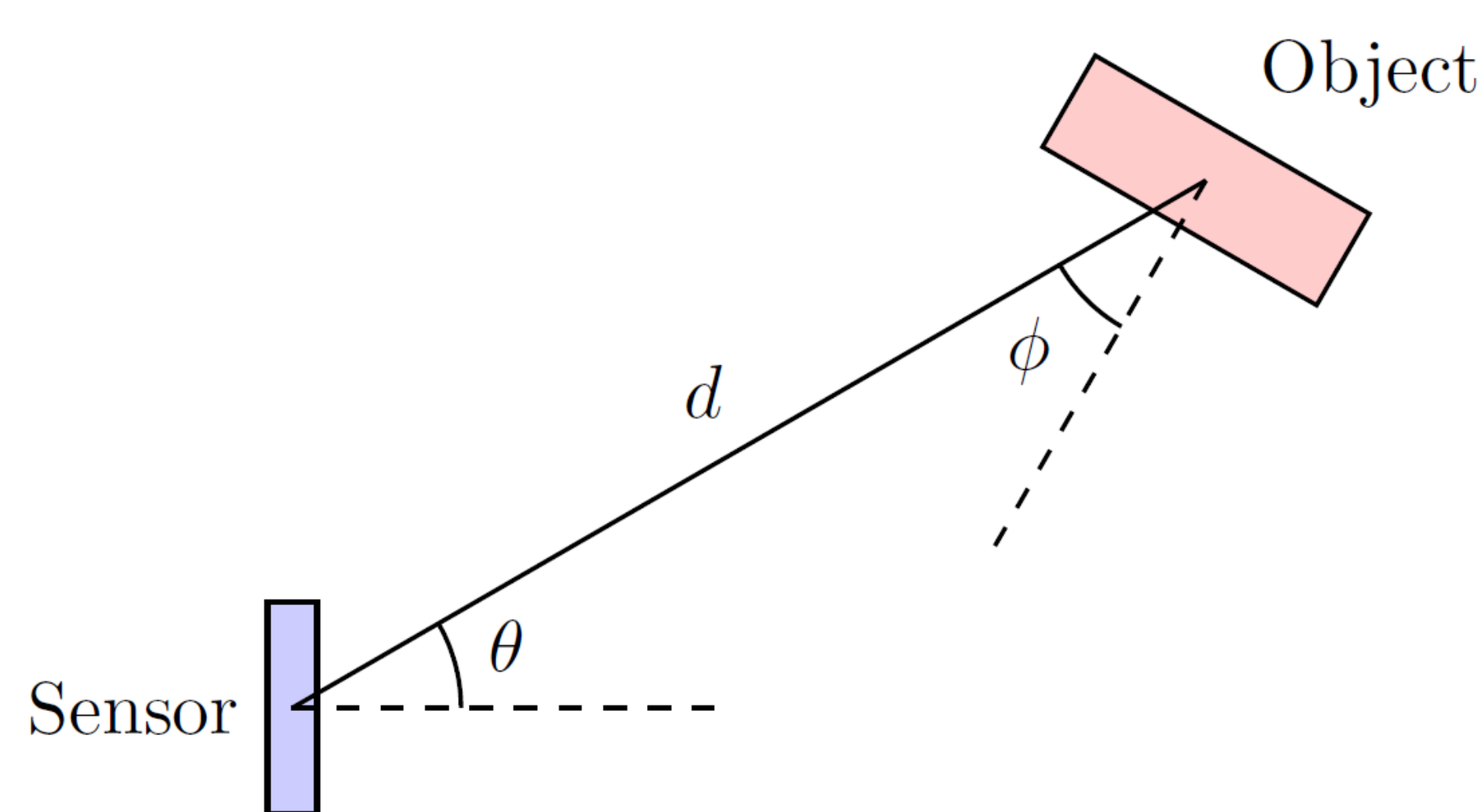
Bryan Van Scoy, Tra Yen Nhu Phan, Lam Ha, and Peter Jamieson
 Department of Electrical and Computer Engineering

Goal:

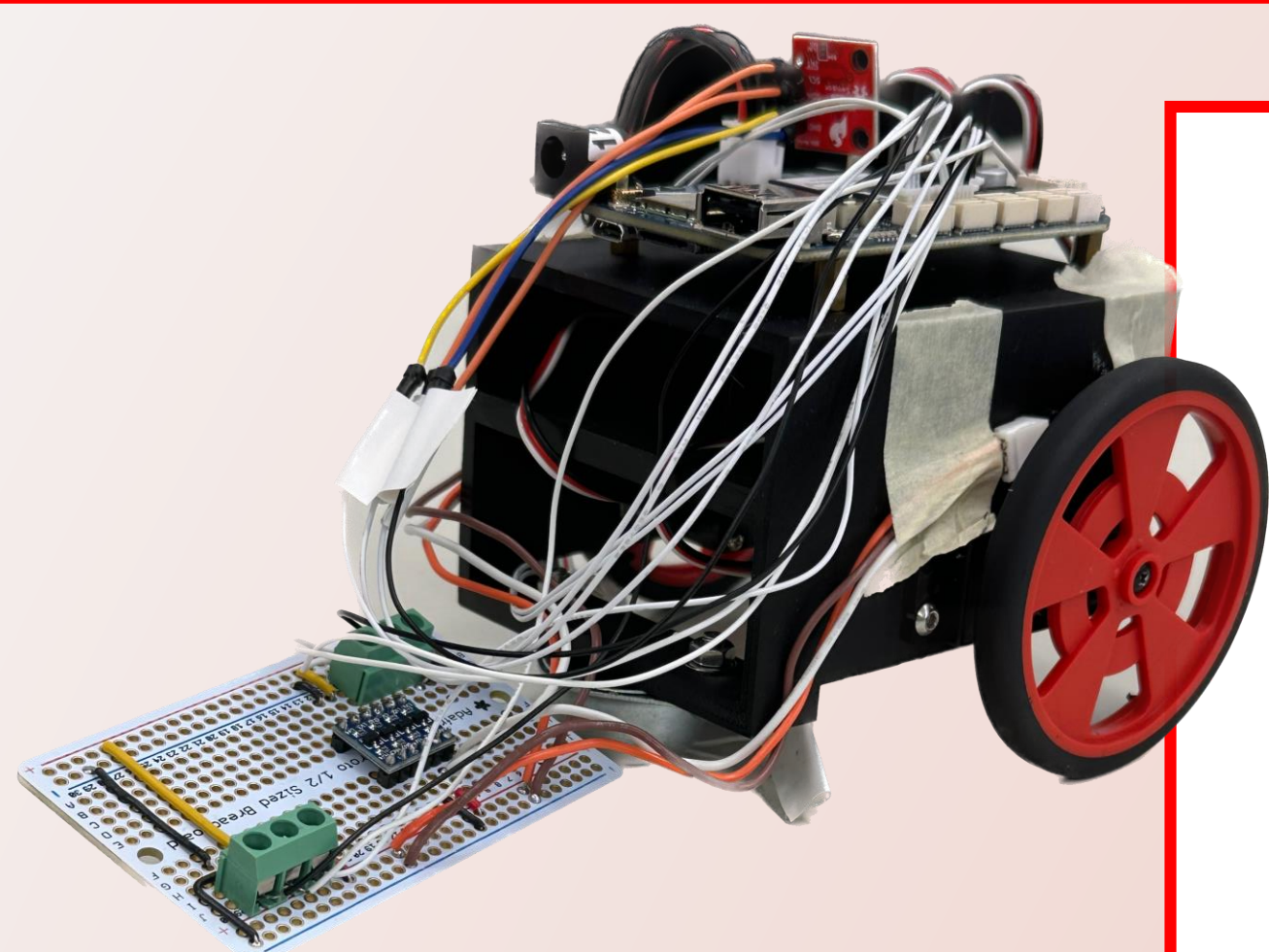
In this work, we provide a methodology to characterize low-cost distance sensors (ultrasonic and infrared) and then program these sensors into our robot simulator. The goal of this work is to characterize the similarity between our real and simulated systems, and progress to providing a confidence value of the “reality gap” of simulation over time.



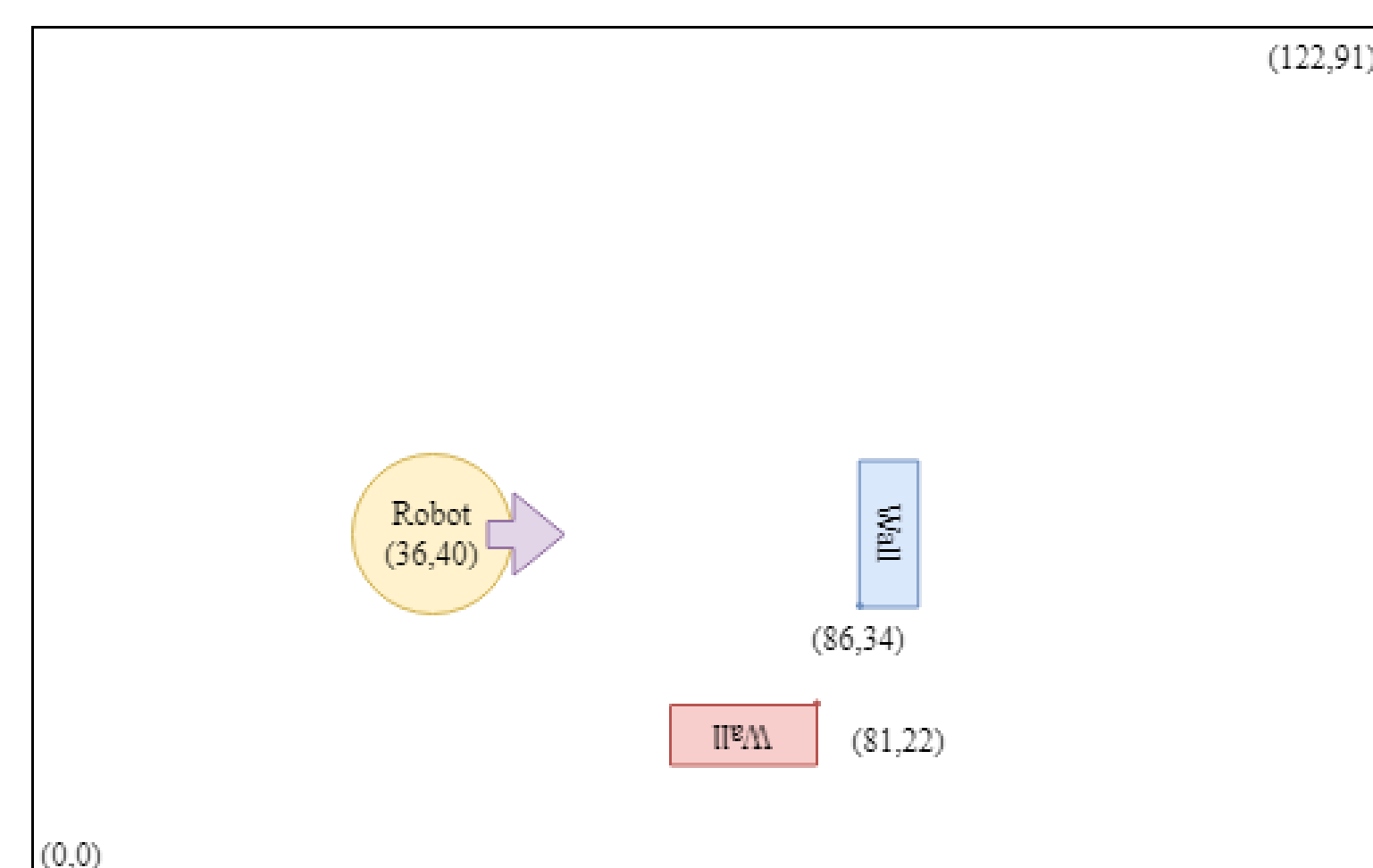
Characterize a Distance Sensor



Sensor parameters for characterization and histogram measurements at **2cm**, **10cm**, and **20cm**



Real vs. Simulation



Experiment to compare real vs simulation

