Hazard Detection System for Skiers: A Modified Ski Design Utilizing Optimal Sensor Models

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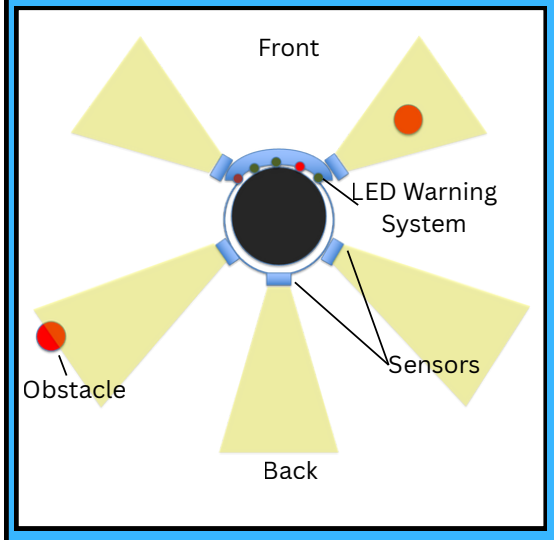


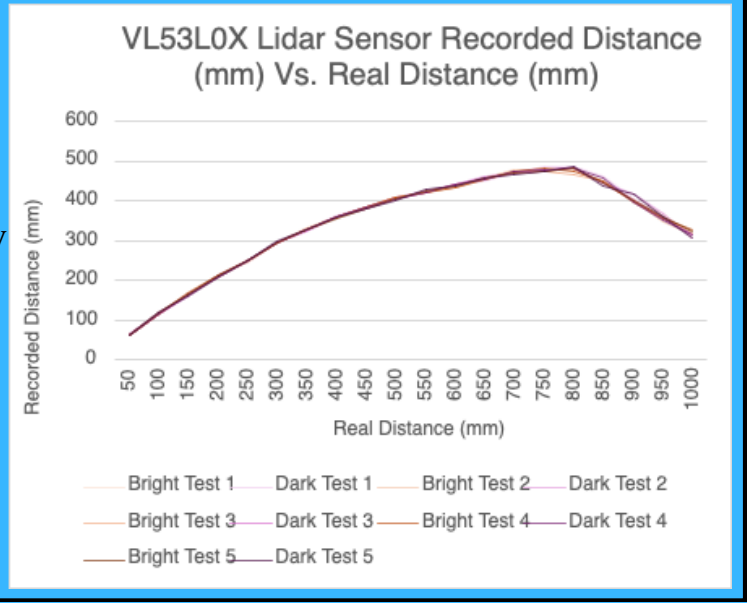
In **snow sports**, individuals have a high chance of **injury** due to **unseen obstacles**.

This project aims to **modify** a pair of **ski goggles** to **detect** and **report obstacles**.

Analyzing specific sensors can help to increase sensor accuracy without increasing cost.

Results:

First Preliminary Test



1.) Determine sensors

2.) Connect and code

3.)Perform testing

4.) Analyze data

Criteria:

1.) Sensors must be **cost efficient**.

2.) Sensors must be **interpretable**.

3.) Sensors should be able to **function together.**

4.) Physical designs must be **unobstructive** and **intuitive**.

Data from the low cost lidar sensor is inaccurate, but follows several patterns.

Inaccuracies: Recordings become less accurate with greater distance.

False Positives: Measured distance after a certain distance starts to shrink, as opposed to growth.

Range: The range between high and low values of measurements increases with true distance.