# Cyclops Ride Assist: Real-Time Monitoring System


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**Description:**

The Cyclops Ride Assist (CRA) is a user-friendly and easily installable system that incorporates automobile safety features onto any bicycle. Its objective is to allow cyclists to have a convenient system that will reduce the likelihood of a car-bicycle collision and to deliver useful accelerometer, LiDAR, and video data in the event of an accident.

**Description and Executive Summary:**

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From the Cyclops team’s inception our primary goal remained constant: implement a functional product which improved rider safety. Over the course of the project's progression, valleys of significant adversity were overcome and peaks or successes were celebrated. At the end of this long winding road packed with the duality of failures and successes, the cyclops team arrived at a completed product that every member of our tight knit team is overwhelmingly proud to call our own.

The Cyclops team’s project reached a functional, completed state that was envisioned in the early stages of the capstone lifecycle. The qualification of this project as a success is defined by the following. First, the device is capable of improving cyclist safety on roadways by intuitively informing users of rear approaching objects. Second, the device is capable of capturing sixty seconds of accelerometer, LiDAR, and video data at the user's request or in the event of a crash. Finally, the device is portable and sufficient. That is to say, a user can quickly equip the device to their bicycle and proceed as they normally would without any further interference or annoyance. These goals were quintessential to our vision and drove design

decisions made over the course of the project. As a result, the Cyclops team met, and in some instances surpassed, these overarching objectives.

In conclusion, the Cyclops Ride Assist (CRA) became a product that successfully achieved its goal of improving overall road safety. Our team's dedication, hard work, and design decisions resulted in the creation of a functional device that helped to add automobile-like safety features onto a bicycle for cyclists. Furthermore, the CRA also reduces collisions between bicycles and other objects by informing the users of any rear-approaching objects or hindrances and will capture data in the event of an accident occurring. Overall, the Cyclops Ride Assist is a large step forward in innovating a device that priorities the safety of all road users.