Head Tracking Assisted Driving Module

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Abstract

The purpose of this study is to develop and test the viability of a robot that will assist delivery drivers in visually acquiring important contextual delivery information, such as: house numbers or building numbers, in unfavorable conditions such as night or heavy rain.

The system uses head tracking technology and a multidirectional robot that can be easily attached to the roof of a vehicle. The multidirectional robot could be outfitted with many different attachments depending on the requirements of the operator. Such as multidirectional illumination on unfavorable conditions, enhanced vision, night vision, optical zoom or personal safety.

The efficacy of the module and different attachments will be tested in the lab and in the real world by having drivers read signs under unfavorable illuminated conditions. First with and after without the aid of the module.

We also aim to test the development skills of a small team, such as ours, to fully grow this technology from the ground up using only open-source development tools and cheap and highly available consumer electronics while maintaining reliability.