AUTOMATED GUIDED VEHICLE APPLICATION:

PRECISION AGRICULTURE

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Abstract

Nowadays, there are many types of automated guided vehicle (AGV) running in different field of industries. Typically their job is moving raw materials or parts around the manufacturing facility. And they can be very accurate in working by following the guide from the wires in the floor, magnets, laser, or vision. However, they all requires an indoor condition. Therefore, the purpose of this thesis report is to discuss the implement of the outdoor AGV. An outdoor AGV has much more constrains than indoor. The environment indoor can be easily controlled while the door is not. The condition could be rough ground, no preset guiding wire or magnets, vision blocking by dust, and so on. The solution, which will talk in this paper, to achieve the outdoor AGV is using laser or vision to guide. In addition, a buffer will be set to stabilize the cargo or others working devices, to prevent them from the shaking due to the rough ground. To be more specific, a prototype will be built to simulate the working of seeder. In agriculture, it is very important to plant corns in a straight line. It benefits not only in absorbing sunlight and ventilation, but also reduce the work of irrigation, fertilizing, and harvest. Because a straight line of corn also mean a straight line of aisle. And more importantly, to achieve unmanned agriculture, a corn field with straight line of aisle will be a good condition for other agriculture robots.

1 Introduction

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Introduce the idea of the design. AGV1 AGV AGV

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This is Limitations of the study

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7 REFERENCES

References

[Lenain et al., 2006] Lenain, R., Thuilot, B., Cariou, C., and Martinet, P. (2006). High accuracy path tracking for vehicles in presence of sliding: Application to farm vehicle automatic guidance for agricultural tasks. *Autonomous robots*, 21(1):79–97.

A Appendix A

This is appendix A