Design of a holonomic five legged robot

Final Report

L. Steyn
04496486

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Study leader: Dr. J.D. Le Roux

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Part 1. Preamble

This report is a description of the work I completed during the year on my final year project, Design of a holonomic five legged robot.

This report contains a copy of my approved project proposal and documentation on the technical parts of my project. These can be found in parts 3 and 4 respectively. The technical documentation contains a detailed recording of the steps taken to overcome design challenges. This includes circuit diagrams, algorithm flowcharts and test results. This section appears on the CD that accompanies this printed report.

This project does not build on any previous project. Instead it is a completely different approach to the holonomic exploration robot problem that was also addressed in earlier years. Although this project has a similar goal to that of previous years, it does not build on these as the locomotion is completely different.

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I,_____ understand what plagiarism is and have carefully studied the plagiarism policy of the University. I hereby declare that all the work described in this report is my own, except where explicitly indicated otherwise. Although I may have discussed the design and investigation with my study leader, fellow students or consulted various books, articles or the internet, the design/investigative work is my own. I have mastered the design and I have made all the required calculations in my lab book (and/or they are reflected in this report) to authenticate this. I am not presenting a complete solution of someone else. Wherever I have used information from other sources, I have given credit by proper and complete referencing of the source material so that it can be clearly discerned what is my own work and what was quoted from other sources. I acknowledge that failure to comply with the instructions regarding referencing will be regarded as plagiarism. If there is any doubt about the authenticity of my work, I am willing to attend an oral ancillary examination/evaluation about the work. I certify that the Project Proposal appearing as the Introduction section of the report is a verbatim copy of the approved Project Proposal.

_____ _____

L. Steyn *Date*

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LIST OF ABBREVIATIONS

LED	light emitting diode

Part 2. Summary

This report documents the development of a robot intended for exploration in unknown terrain by moving holonomically and using legs for locomotion.

What has been done

[1]

References

[1] A. Hidayat, A. N. Jati, and R. E. Saputra, “Autonomous quadruped robot locomotion control using inverse kinematics and sine pattern method,” *IEEE*, 2017.