KINOVA

SOLUTION

Inverse Kinematics using Newton's algorithm

2021-04-21

Gen3 lite Cursus

KINOVA

Table of content

KINOVA

Manipulations

Part 1: Implementation of the inverse kinematics

1.1 & 1.2

See related .m file

Part 2: Validation on the robot

2.1

You may test the points selected by the students.

2.2

You may test the students' input using the associated .m file

2.3

It is more accurate than the simplified method and, contrary to the iterative method, it will always get the robot closer to its target.

2.4

The algorithm will not run because the initial guess is a singularity, which prevents the inversion of the jacobian matrix.

Acknowledgements

This document was produced in collaboration with the following establishments

Including direct implication from the following people:

- Prof. David Saussié, Eng., M.A.Sc., Ph.D., Department of Electrical Engineering.
- Alexis Tang, M.Eng., Department of Electrical Engineering
- Prof. Jérôme Le Ny, Eng., M.A.Sc., Ph.D., Department of Electrical Engineering.
- Prof. Richard Gourdeau , B.A.Sc., M.A.Sc., Ph.D., Department of Electrical Engineering.
