

Part A Project Initiation Form

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Aim:
Develop walking algorithms for use on the Nugus platform.

Objectives:

1. Develop a kinematic model (2D and 3D) for the walking robot and create a Matlab visualization.
2. Implement quasi-static walking routine on the Nugus platform (open-loop).
3. Implement zero-moment principle based dynamic walking on the Nugus platform (open-loop).
4. Utilise the arms to extend the region of stability of the walking gait.
5. Test the walking gaits on gazebo simulation.
6. Develop an interface to run open-loop trajectories on the nugus platform.
7. Explore the robustification of walking gait using arms and/or disturbance rejection.