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국문 강연제목: 걷기와 빨리달리기를 모사하는 로봇 메커니즘

영문 강연제목: A Robotic Leg Mechanism for both Human-like Walking and Sprinting

Abstract

Humanoid robots can mimic the human characteristics of gait as well as to run and jump. The robots but might struggle to mimic sprinting with human-like kinematics. In this study, a robotic leg mechanism that can be reconfigurable to approximately mimic both human-like walking and sprinting kinematics. The kinematic characteristics of lower limb joints was analyzed based on motion-captured data of repeated walking and sprinting on a treadmill. Kinematic approximation with crank-rocker type four-bar linkages were performed to find optimal solutions that can mimic both trajectories. The results indicated that the suggested mechanism can approximate both trajectories by adjusting the length of only one link in each linkage. We plan to extend this unilateral leg to bilateral legs.

Brief Biosketch

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