

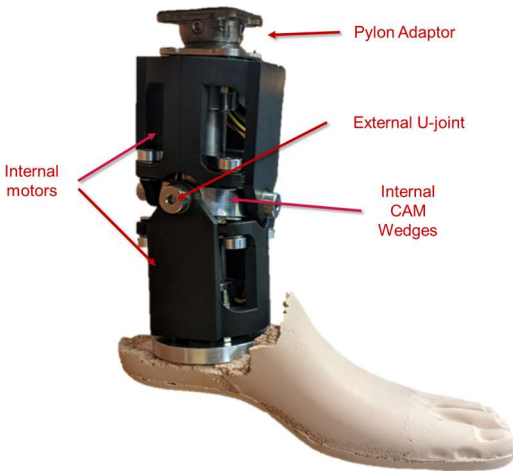


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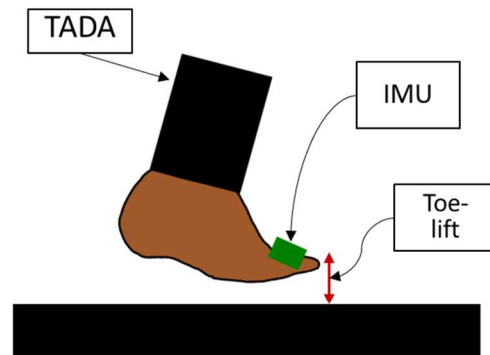
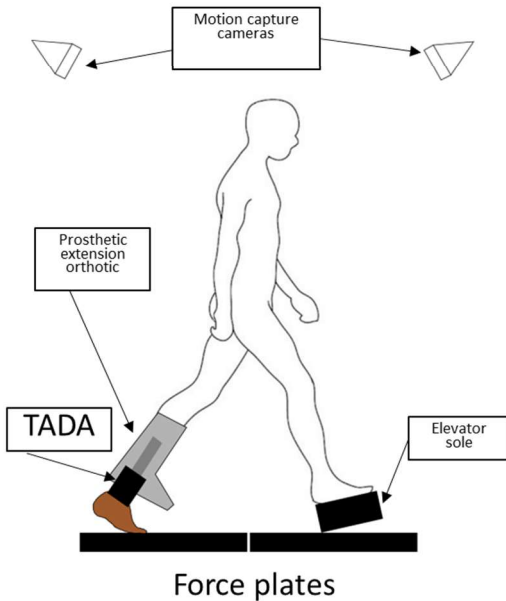
Exploration of semi-active control laws for the Two Axis aDaptable Ankle (TADA)



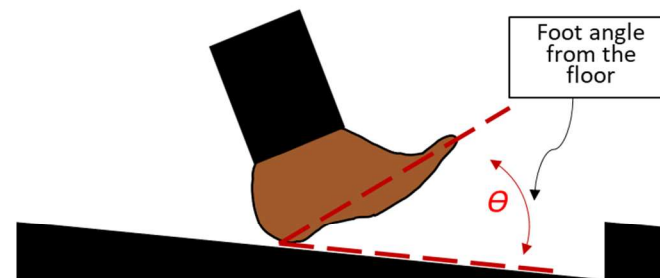
- The Two Axis aDaptable Ankle (TADA) is a semi-active prosthetic ankle that allows sagittal and frontal ankle angle control
- Method: walk at self-selected speed using TADA angles of neutral angle (90° dorsiflexion and no eversion), and from neutral, 5° dorsiflexion, 5° plantarflexion, 5° inversion, and 5° eversion (5 total angles)
- The TADA will have an IMU on the foot, hall sensors and encoders for the motors, and Europa+ for the load cell

Aim to investigate

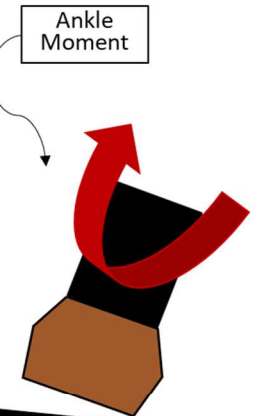
- How to move the foot during the swing phase to increase minimum toe clearance?
- What is the right way for the TADA to match the slope?
- How to use ankle moment to select ankle angles?



Toe-lift control



Anticipatory Slope-Matching Control



Moment-Limiting Control