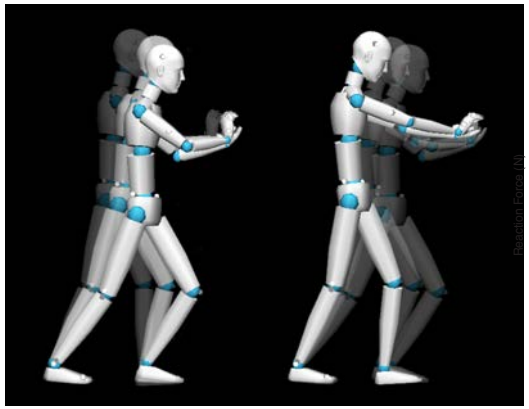
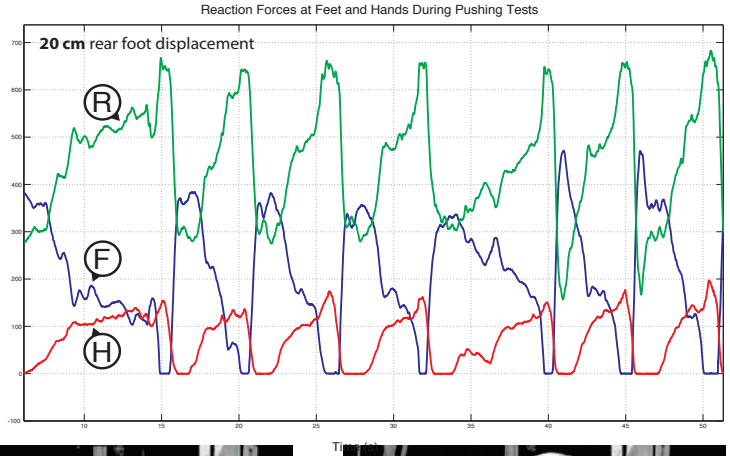
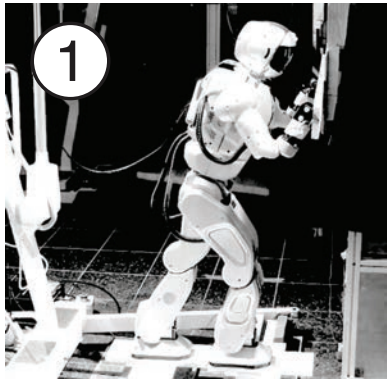
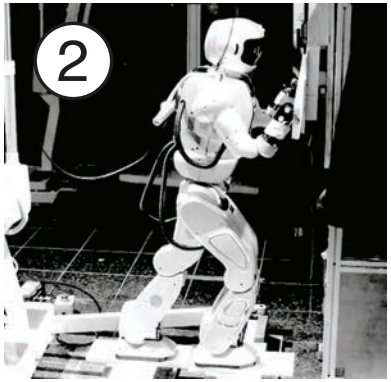
BS/MS Research Project

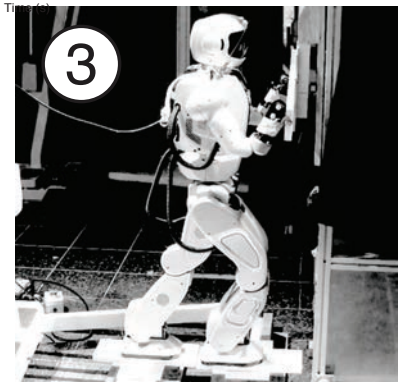
A Humanoid Robot Pushing Model Inspired by Human Motion











Alex Alspach (DASL), 2012

- Human pushing analyzed using motion capture.
- Motion, along with forces exerted at hands and feet analyzed to determine the effect of stance length and body angle.
- Knowledge gained used to create pushing controller for humanoid robot HUBO.
- With the waist joint unconstrained and able to lean, the zero-moment point (ZMP) is placed at the stable forward maximum for the largest range of force output at the hands.