CS 309
Autonomous Intelligent Robotics

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Something Fun to Start

- In 2010, at Yale I and my co-authors programmed my robot to play rock-paper-scissors
  - With some participants, it cheated at the game

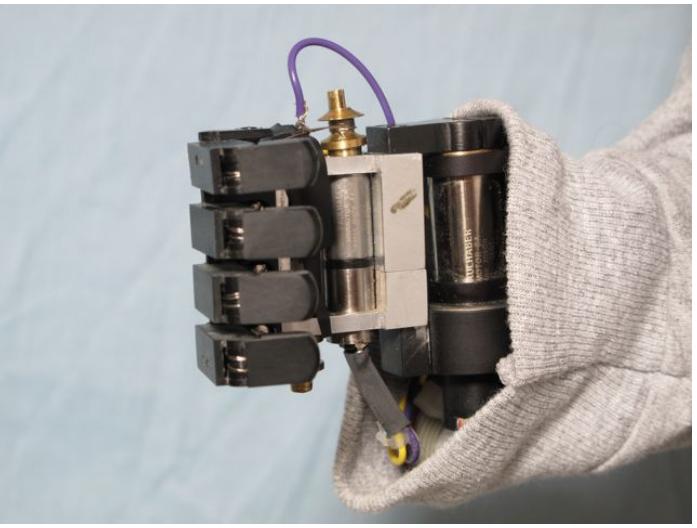
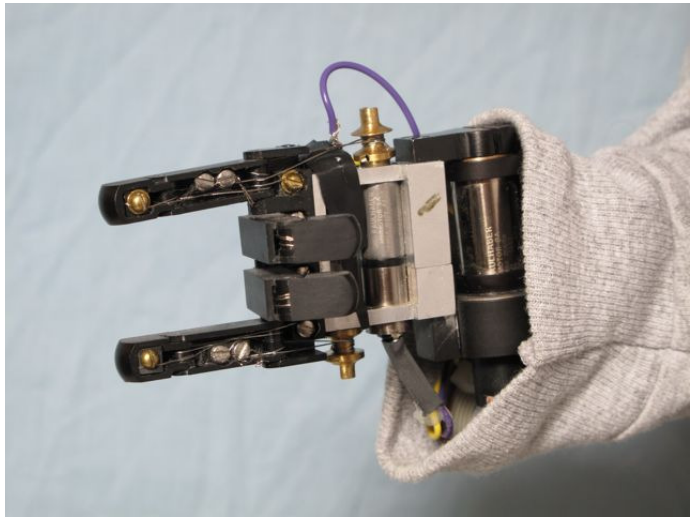
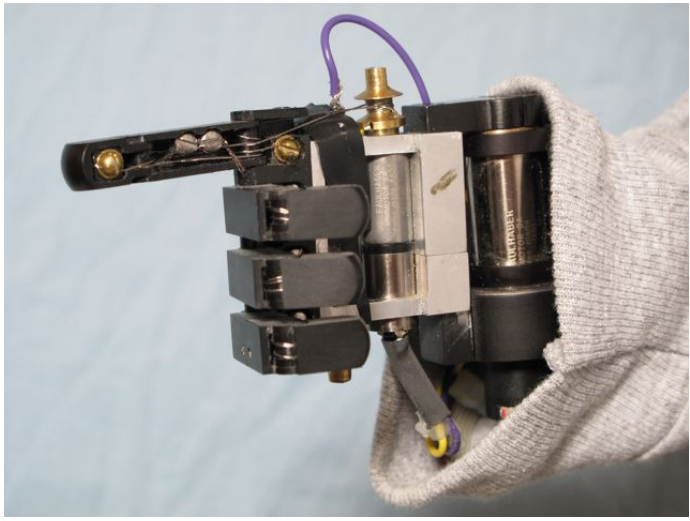
E. Short, J. W. Hart, M. Vu, and B. Scassellati. No Fair!! An Interaction with a Cheating Robot. In Proceeding of the 5th ACM/IEEE International Conference on Human-Robot Interaction (HRI 2010). Osaka, Japan, March 2010. (Nominated for best paper award).

C++ Tutorial

- http://www.cs.utexas.edu/~ans/camps/firstbytes/tutorial/index.html

Nico, a Humanoid Infant

Rock-Paper-Scissors

Three Conditions

- Control – The robot plays rock-paper-scissors for 20 rounds
- Verbal Cheat – On 3 rounds, the robot announces itself the winner when it has lost or tied
- Action Cheat – On 3 rounds, the robot announces itself the winner, and changes the symbol its hand displays to the winning symbol, when it has lost or tied

Videos

Results Summary

- Control participants were bored
- Verbal cheat was perceived as a malfunction
- Action cheat
  - Was perceived as cheating
  - Resulted in higher participant engagement
  - Participants attributed greater agency to the robot

The Wizard of Oz Technique

- “Pay no attention to that man behind the curtain.”
- In this case it was a one of our co-authors driving the robot
- Wizard of Oz refers to robot teleoperation in HRI experiments rather than autonomous operation on the part of the robot

Back to C++

- A simpler, quick example that covers the essentials

A quick intro to ROS

- ROS Tutorials