

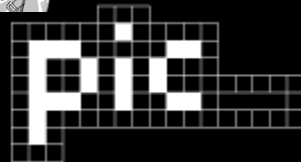
Sleight of Hand: Perception of Finger Motion from Reduced Marker Sets

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Pedro Rodrigues

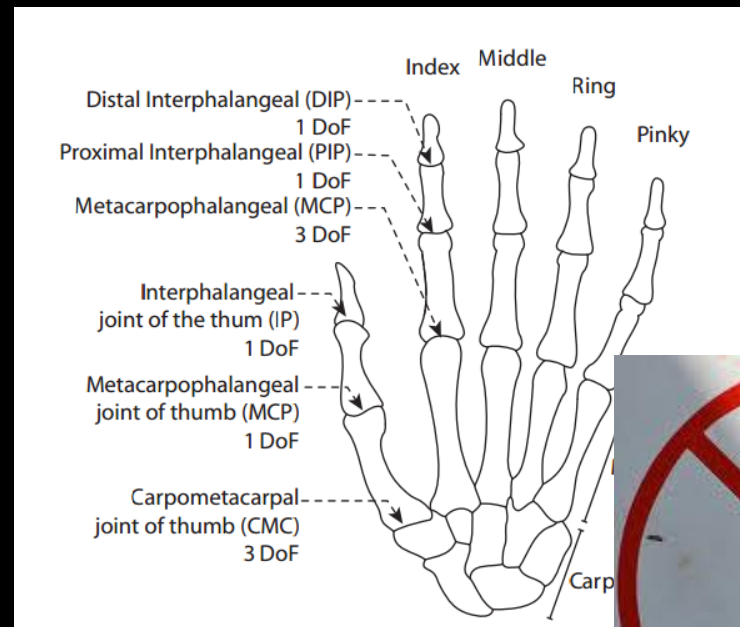
Weekly Presentation



Intro tl;dr



- Hands are **expressive**, like your face!
- Hands **anatomy** and **complexity** is high!
- Capturing hand or animated by



ignored



Objectives

- **Reduce** number of markers per hand
- Use **Inverse Kinematics** to fill the unanimated joints
- Keep perceptual fidelity **high**

Method

Golden Standard

Forward Kinematics + 16F-4T_(a)

Various animations:



(a) Opening a bottle



(b) Playing with a tennis ball



(c) Counting



(a)



Talking (hand gestures)



(f) Signing



(g) Playing the flute



(h) Grasping

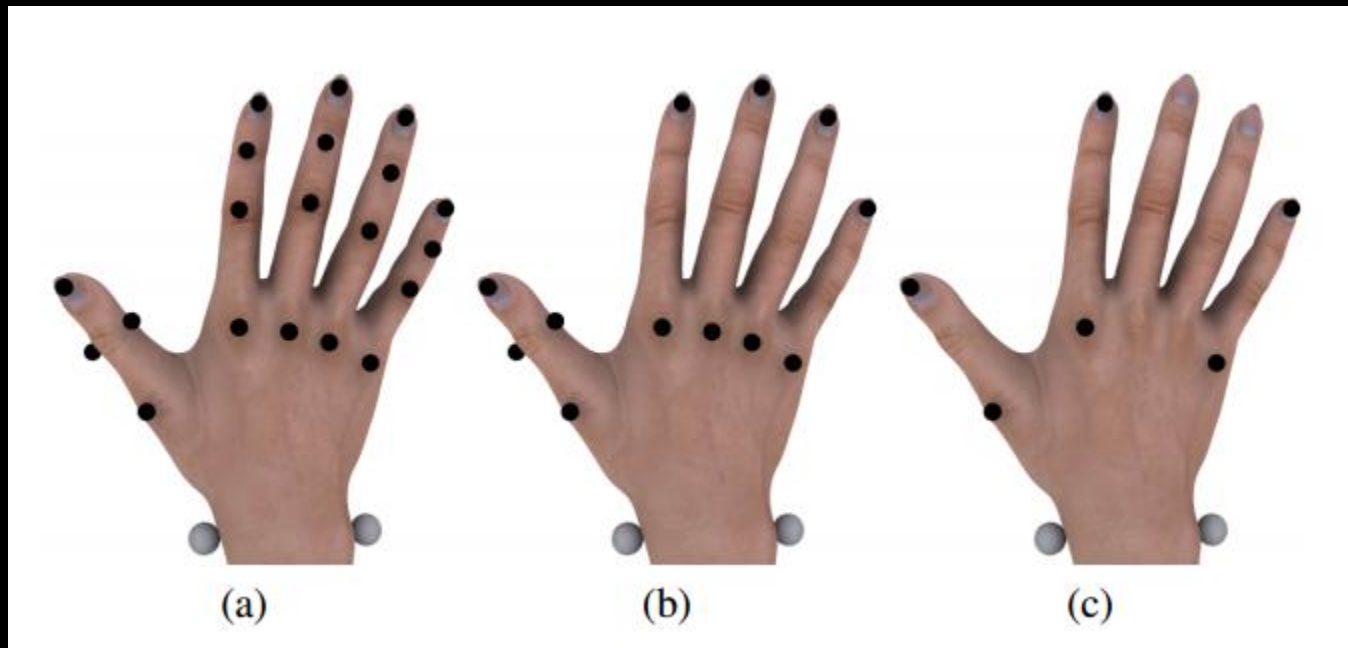


(i) Typing

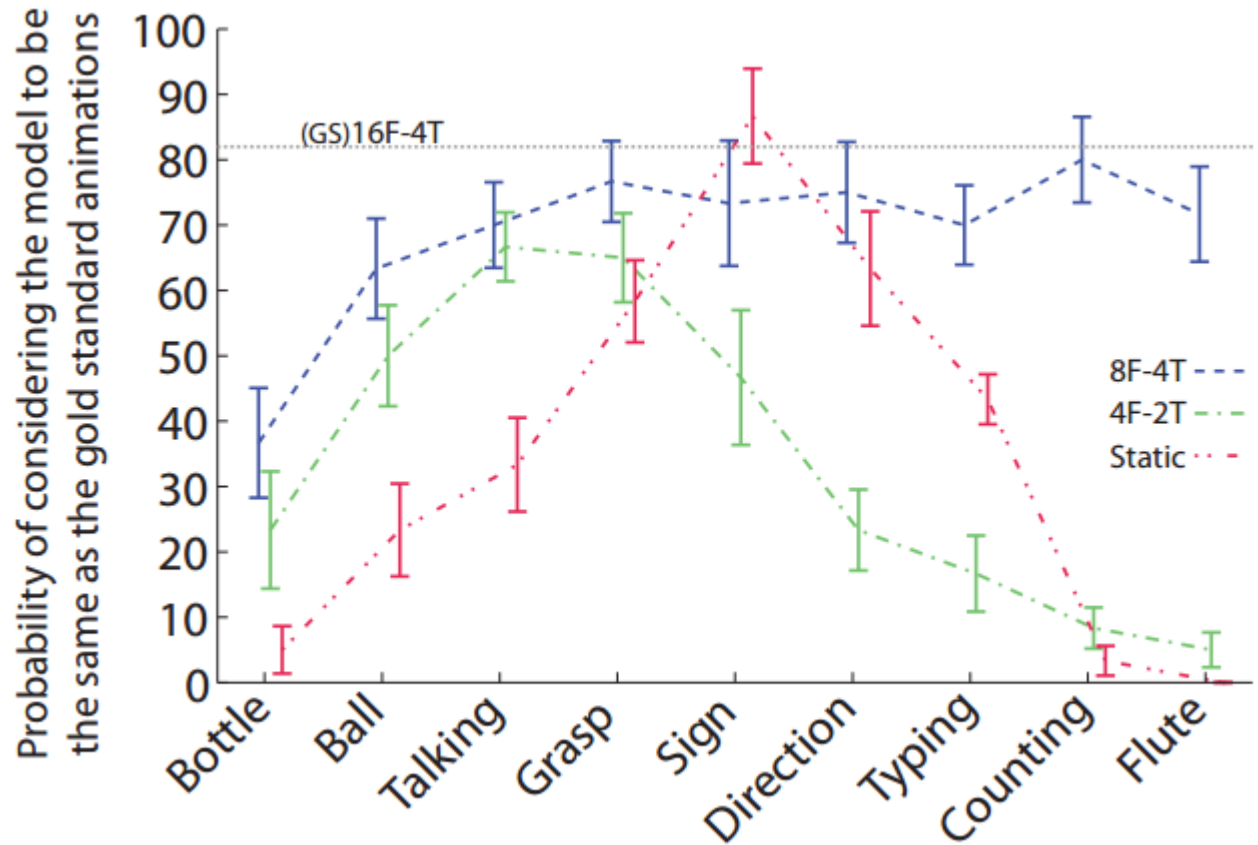
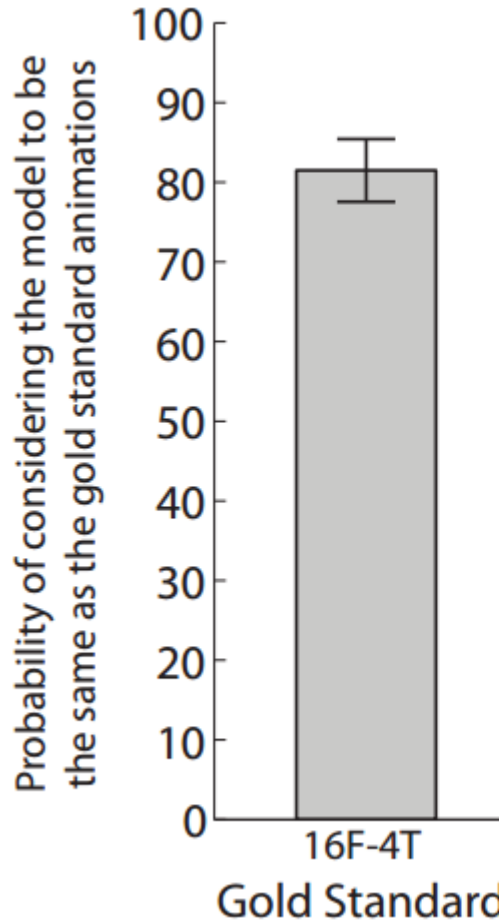


Experiment 1

GS_(a) vs 8F-4T_(b) vs 4F-2T_(c) vs Static

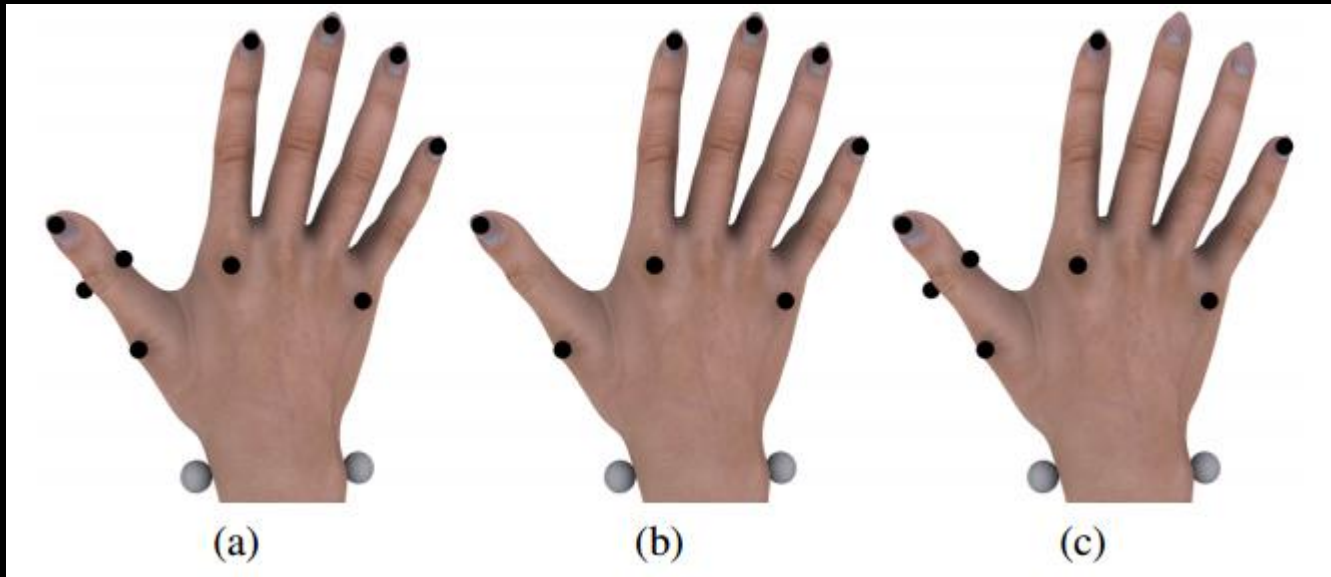


Experiment 1 Results

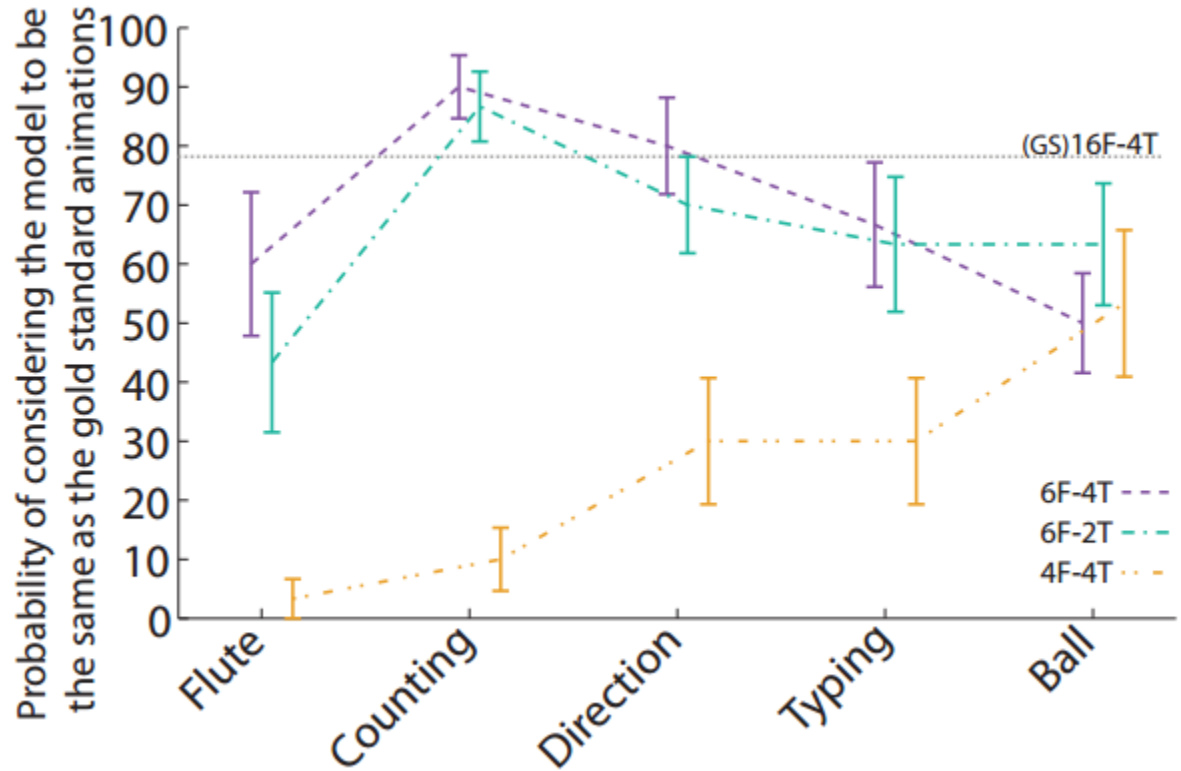
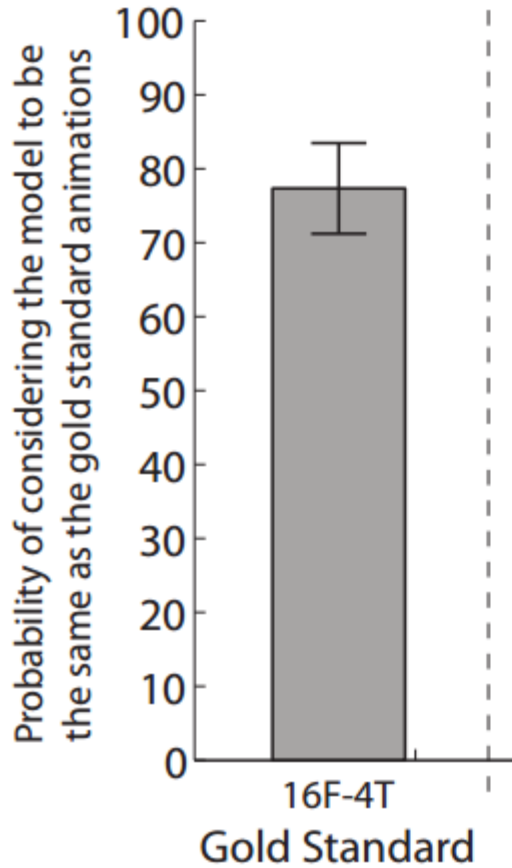


Experiment 2

GS vs 6F-4T_(a) vs 6F-2T_(b) vs 4F-4T_(c)



Experiment 2 Results



Conclusions

- 6F-2T ROCKS!... In most cases.
- Suggested Guidelines:
 - Majority of the cases
 - Finger curvature is h
 - Independence betw
 - 4F-4T**
 - Secondary motion /



Eye Candy

Sleight of Hand:

Perception of finger motion
from reduced marker sets.

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