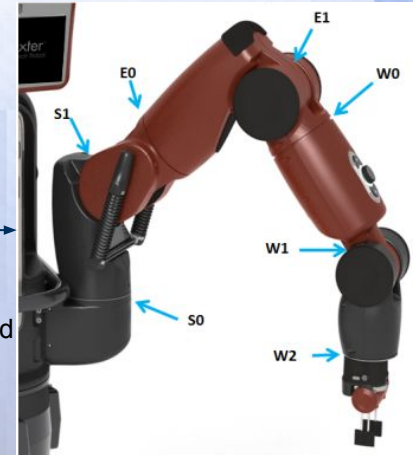
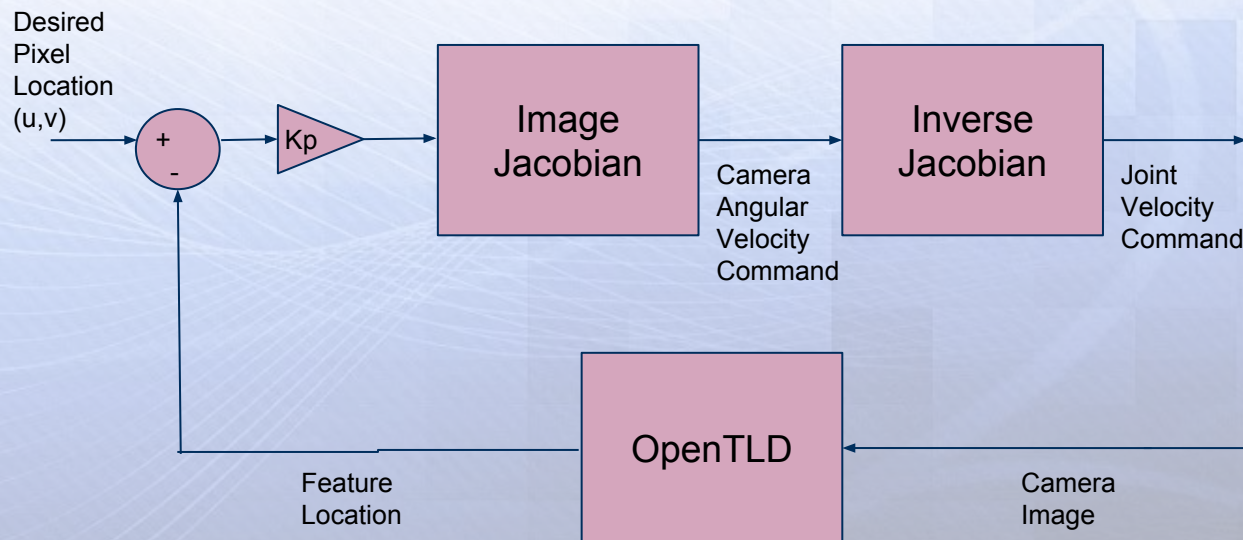


IBVS Fistbump

- Craig Bidstrup, Jae Lee

Block Diagram



- OpenTLD: object tracking algorithm
- (image credit: <http://sdk.rethinkrobotics.com/wiki/Arms>)

Key Equations

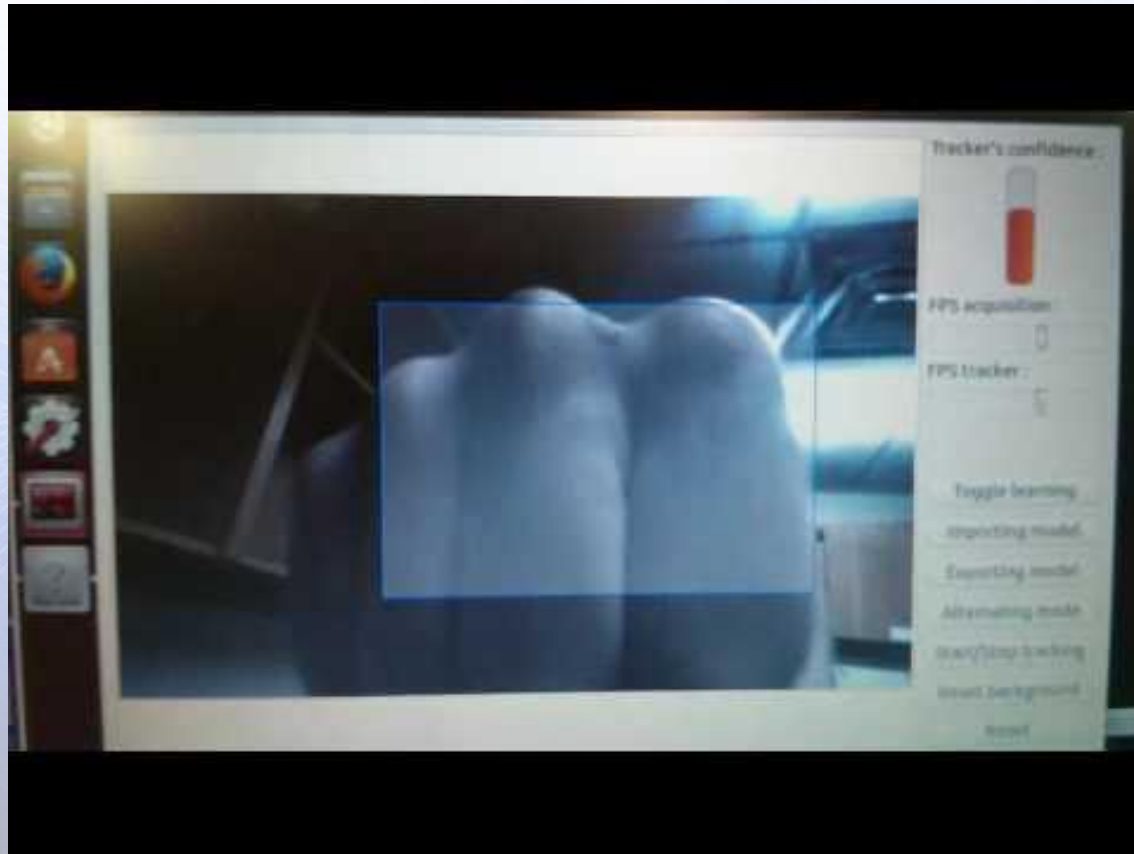
- Computes desired camera angular velocity

$$\begin{aligned}\dot{s} &= L_w(u, v)\omega_c \\ \omega_c &= L_w^\dagger \dot{s} \\ \omega_c &= L_w^\dagger(\alpha s)\end{aligned}$$

- Computes joint velocity commands

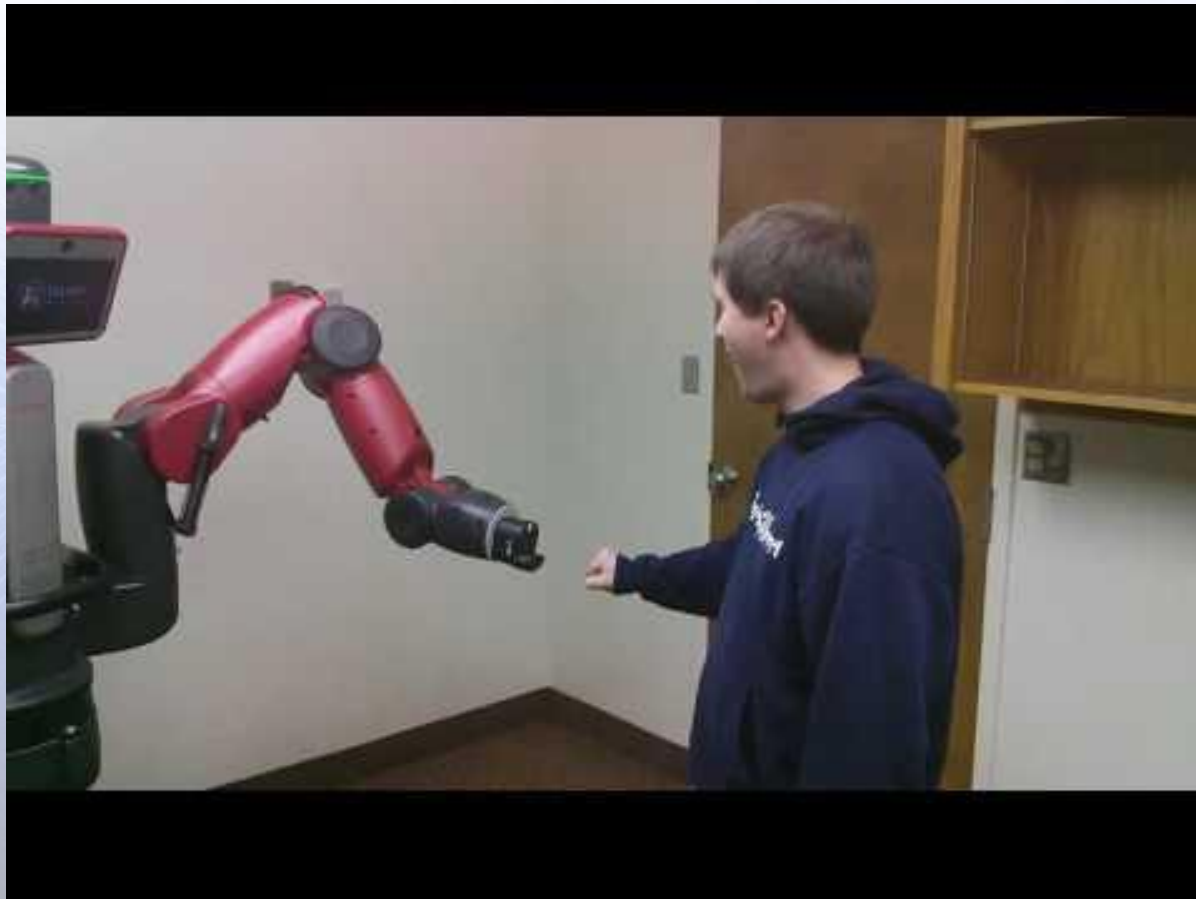
$$\begin{aligned}\xi &= J(q)\dot{q} \\ \dot{q} &= J^T(JJ^T + \delta I)^{-1}\xi\end{aligned}$$

Hardware Demonstration



<https://www.youtube.com/watch?v=d481sG06dck>

Hardware Demonstration



<https://www.youtube.com/watch?v=osZm3LESuXY>

The background is a deep blue gradient. Overlaid on this are several elements: a faint, light blue grid of squares that covers most of the frame; a series of thin, white, wavy lines that originate from the left side and curve towards the center; and a few larger, semi-transparent white circular shapes that appear as if they are floating or moving across the scene.

Questions?