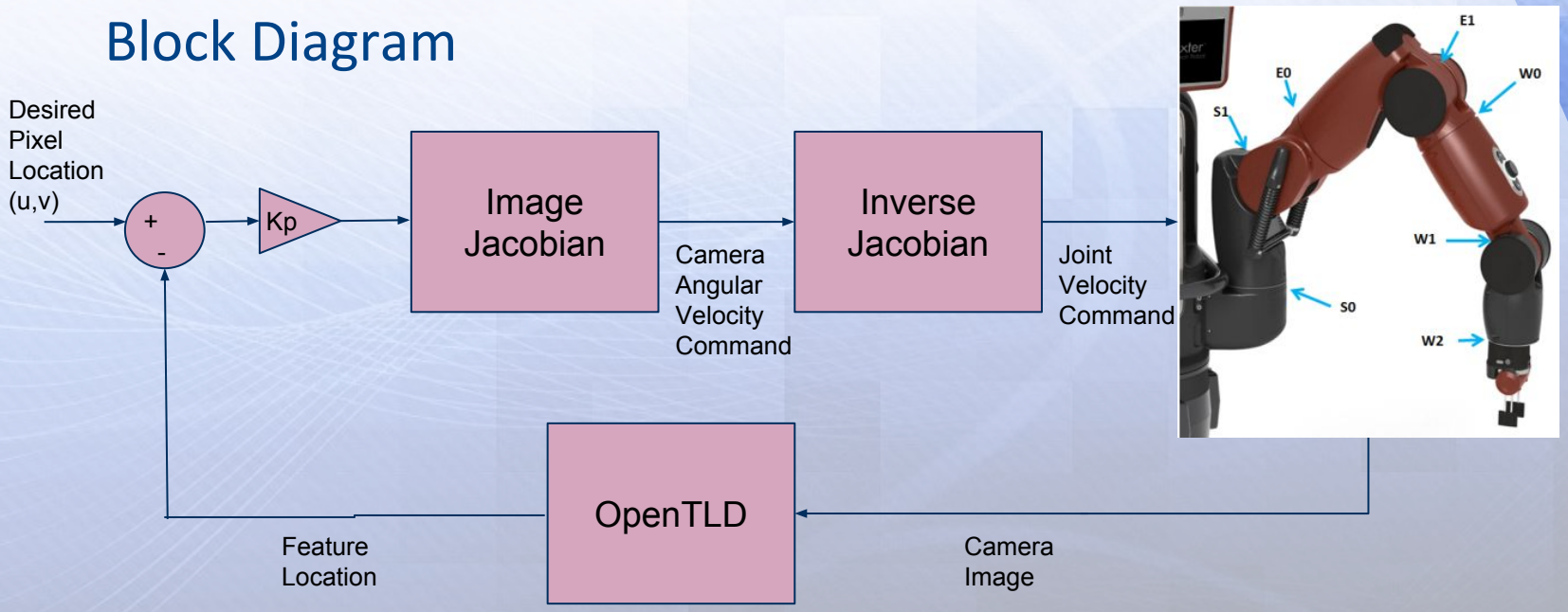
IBVS Fistbump

- Craig Bidstrup, Jae Lee

Block Diagram



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

Key Equations

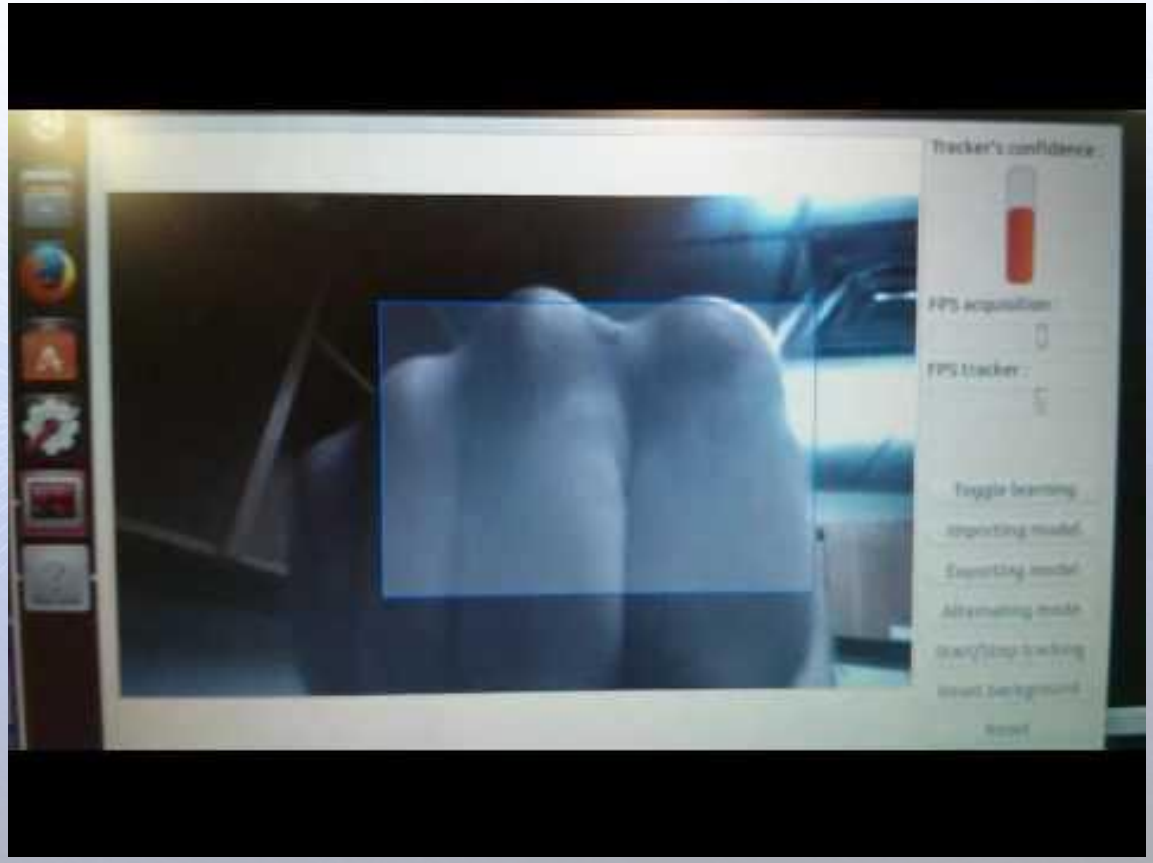
- Computes desired camera angular velocity

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

- Computes joint velocity commands

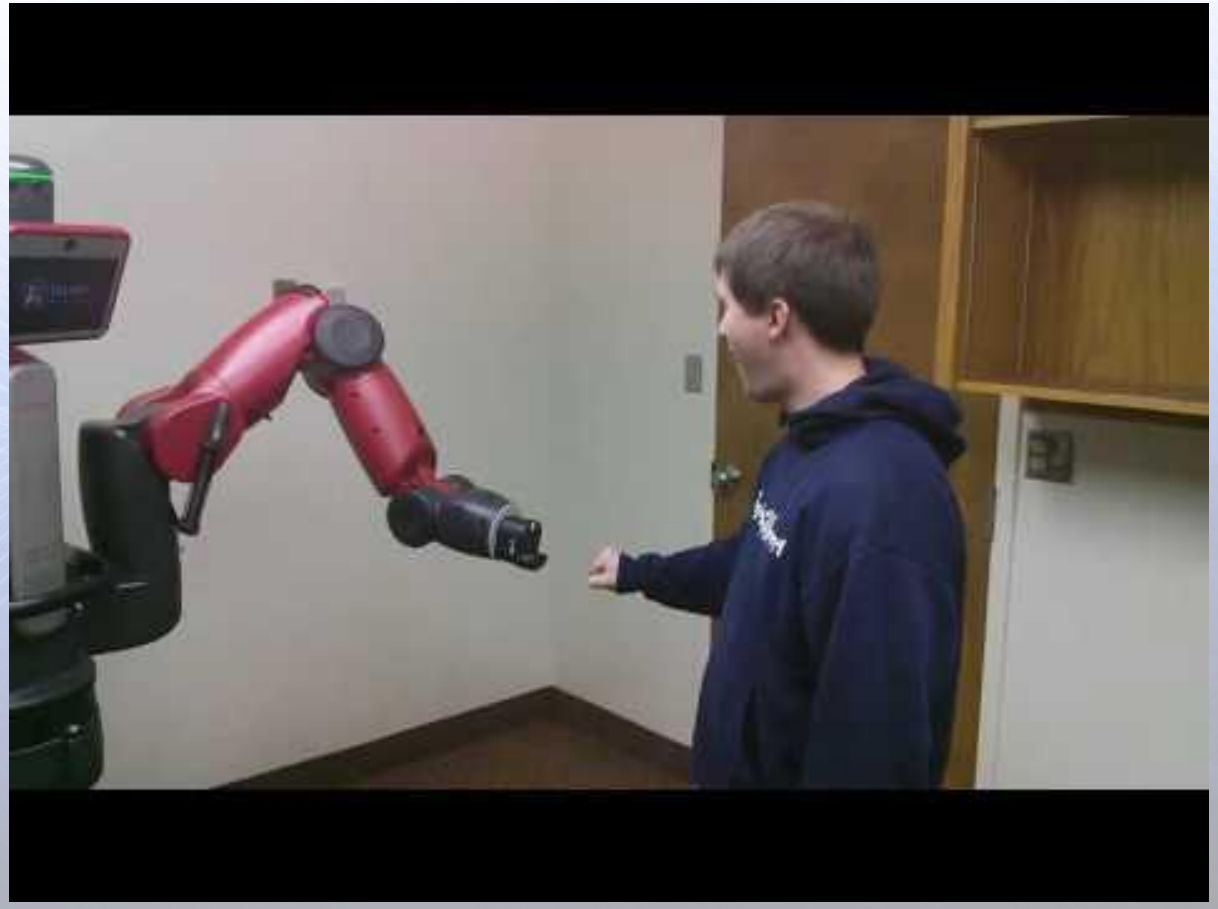
$$\begin{aligned} \xi &= J(q)\dot{q} \\ \dot{q} &= J^T(JJ^T + \delta I)^{-1}\xi \end{aligned}$$

Hardware Demonstration



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

Hardware Demonstration



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

Questions?