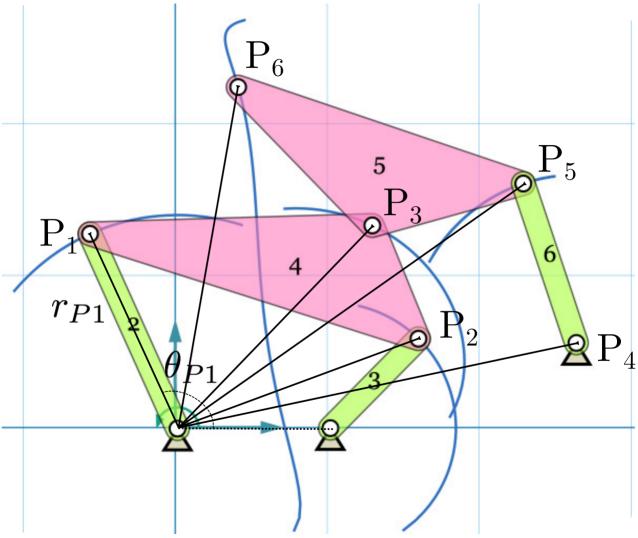
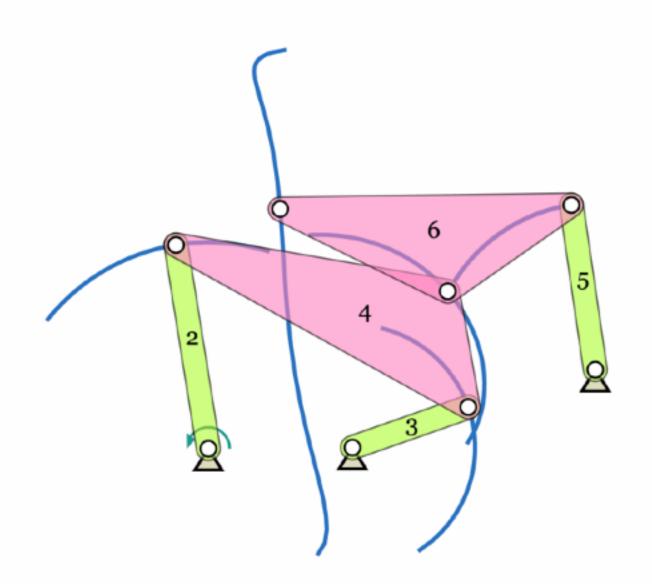
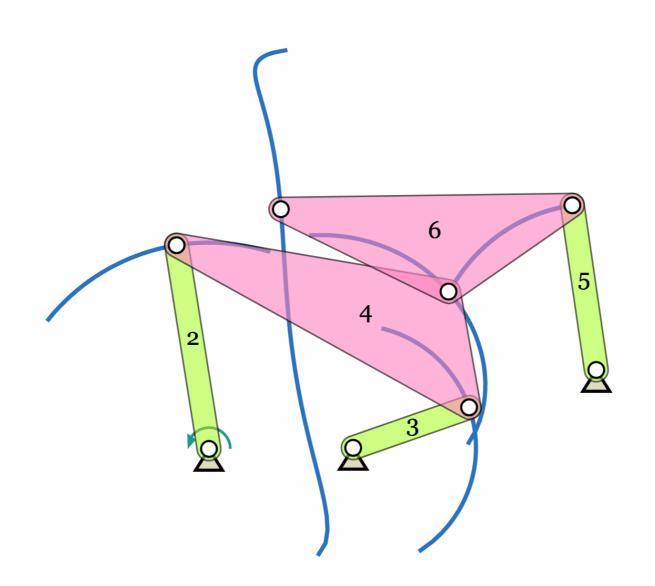


## Linkage as Observed Variable (X)

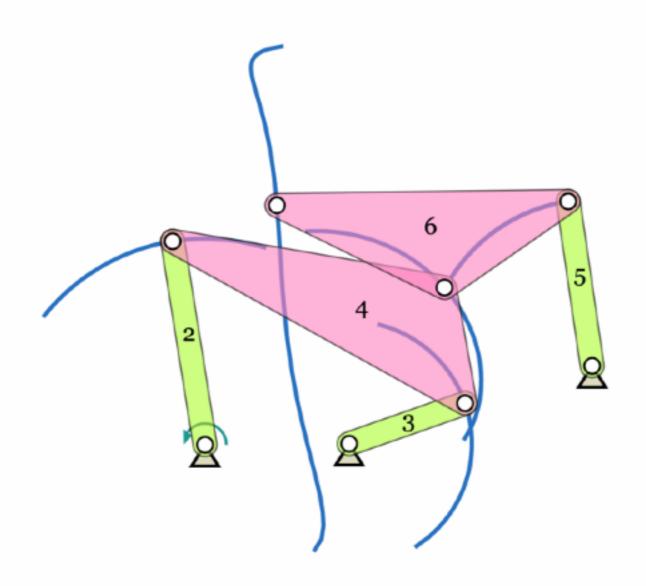


$$X = \{r_{P1}, \theta_{P1}, r_{P2}, \theta_{P2}, r_{P3}, \theta_{Pl}\}_{i=1}^{100},$$





## Linkage as Observed Variable (X)



$$X = \{r_{P1}, \theta_{P1}, r_{P2}, \theta_{P2}, r_{P3}, \theta_{Pl}\}_{i=1}^{100},$$

## C-VAE

 Observed data is supposedly generated by an unknown function G of continuous latent variables and a condition Y

$$X = G(z, Y; \theta_g)$$

Recognition Model approximates

$$\mu, \sigma = Q(X, Y; \theta_e)$$

$$q(z|X) = \mathcal{N}(\mu, \sigma)$$

C-VAE learns to model the conditional distribution of X and Y