Model Free Reinforcement Learning

Application to leader follower

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Outline

- Recap
- Results
- Next Milestone
- Progress Made

Objective

Objective

Our Goal is to find optimum policy that eleminates the tracking error

$$u = [v, \gamma] \tag{1}$$

$$\mathbf{e}_k = \begin{bmatrix} x_k^{[\ell]} - x_k - d\cos\theta_k' \\ y_k^{[\ell]} - y_k - d\sin\theta_k' \\ \theta_k' - \theta_k \end{bmatrix} \tag{2}$$

Problem Setup

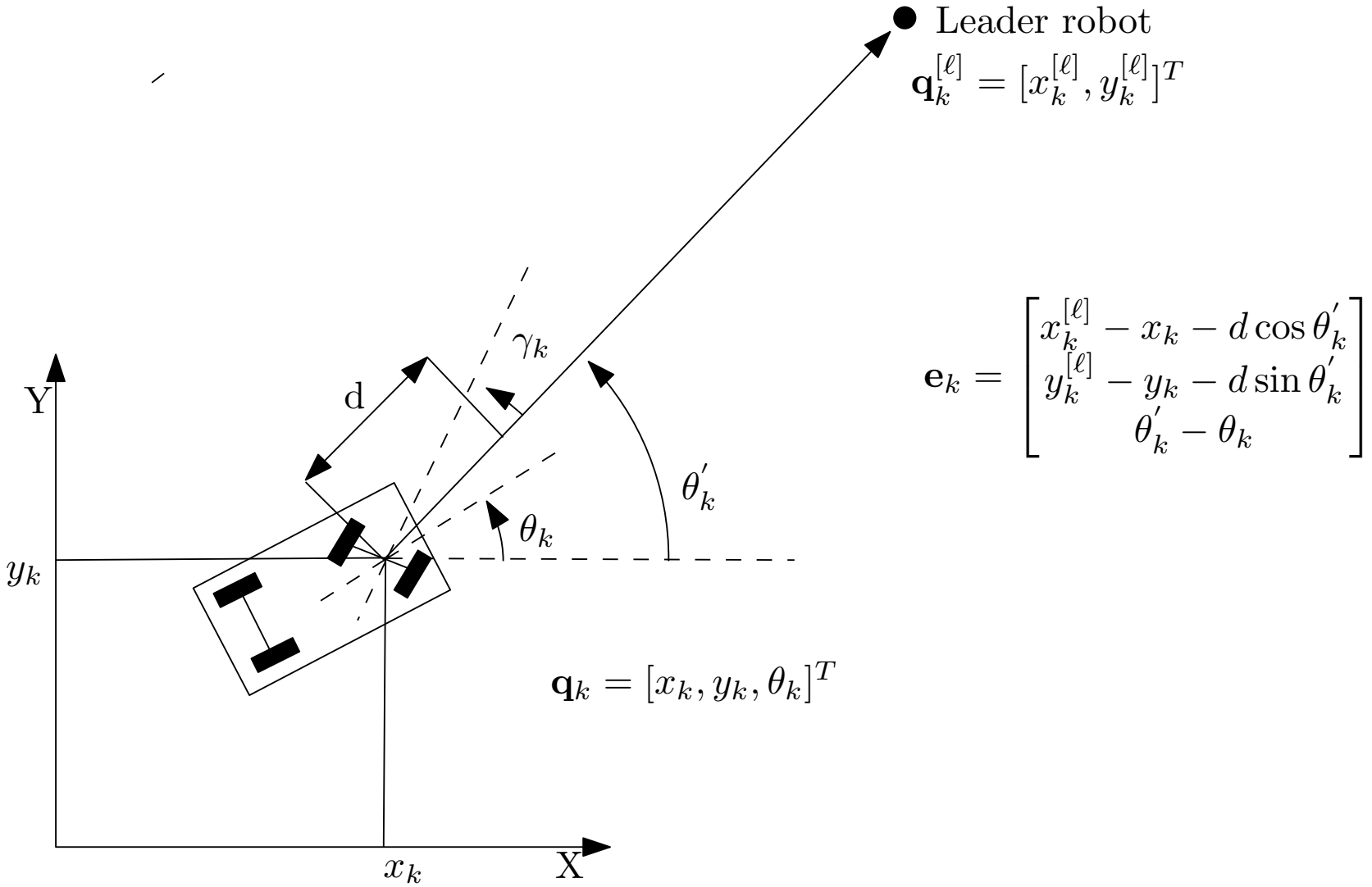

Figure: Problem Setup

randomPath

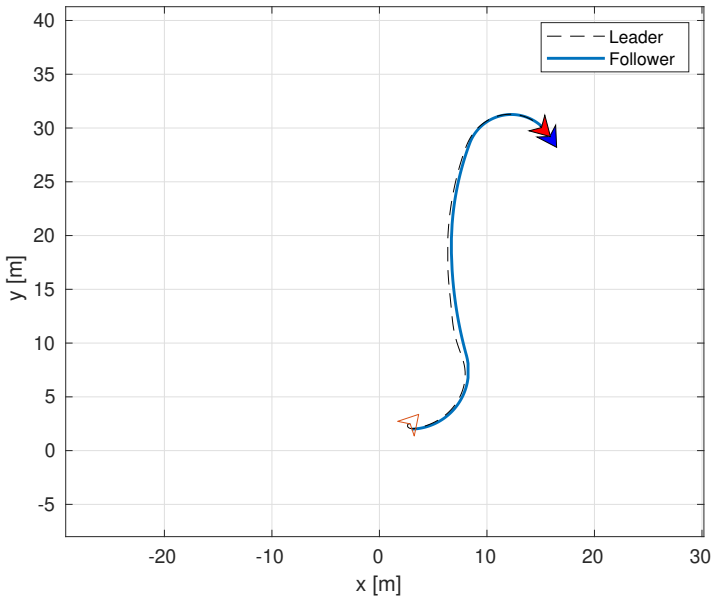

Figure: trajectory

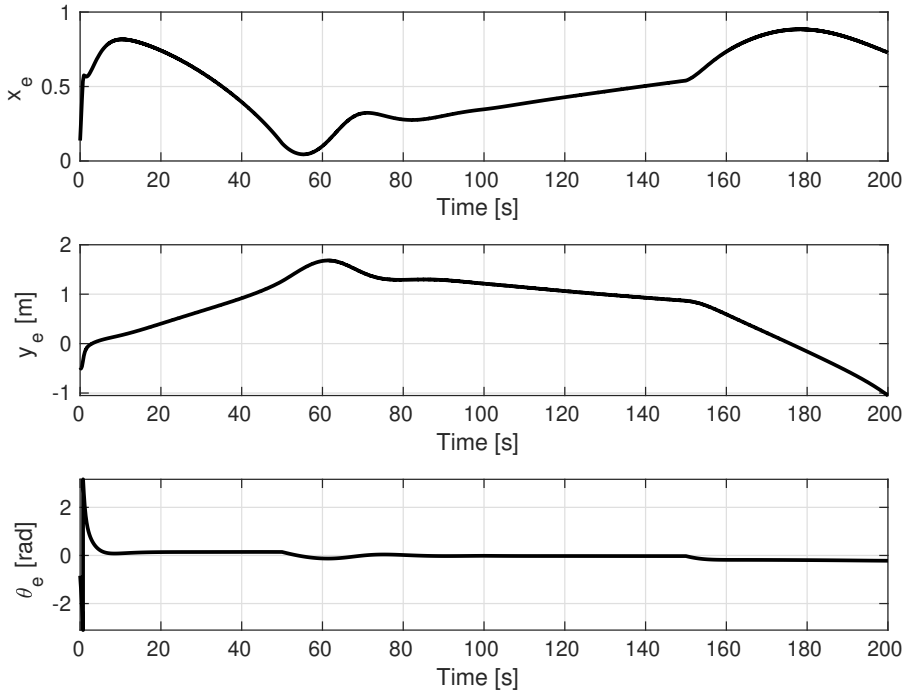

Figure: Error

Next Milestone

Objective

Simulate the EDU-Mod in V-rep simulation platform.

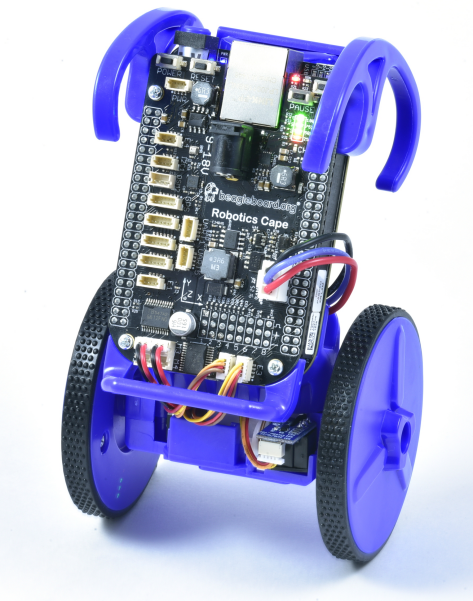

Figure: EduMip robot

Progress

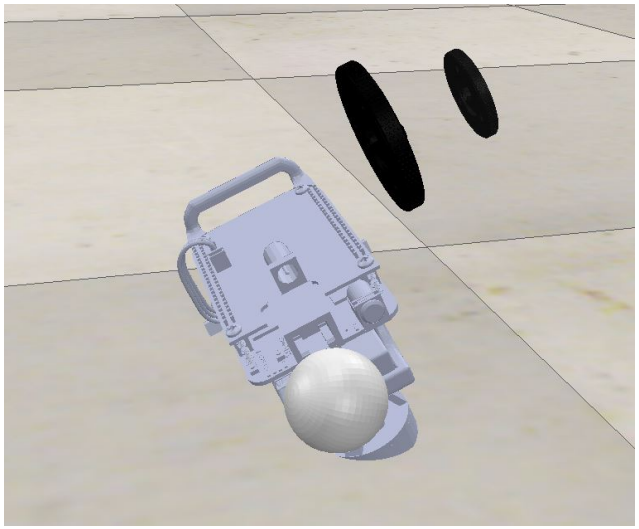

Figure: Failed Model

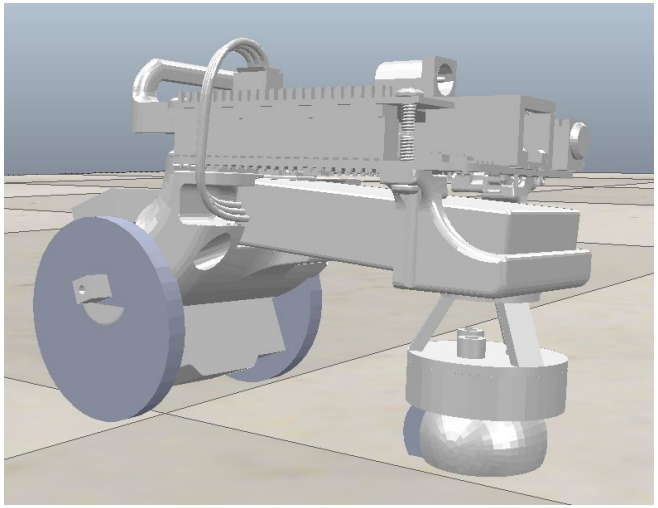

Figure: Corrected Model

Questions?