Model Free Reinforcement Learning

Application to leader follower

Amr Elhussein
Advisor: Dr. Suruz Miah

Department of Electrical and Computer Engineering
Bradley University
1501 W. Bradley Avenue
Peoria, IL, 61625, USA

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BRADLEY University

Outline

- Rectlinear path
- Sine wave
- Critic Weights
- Remarks
- Results

Results

Rectilinear Path

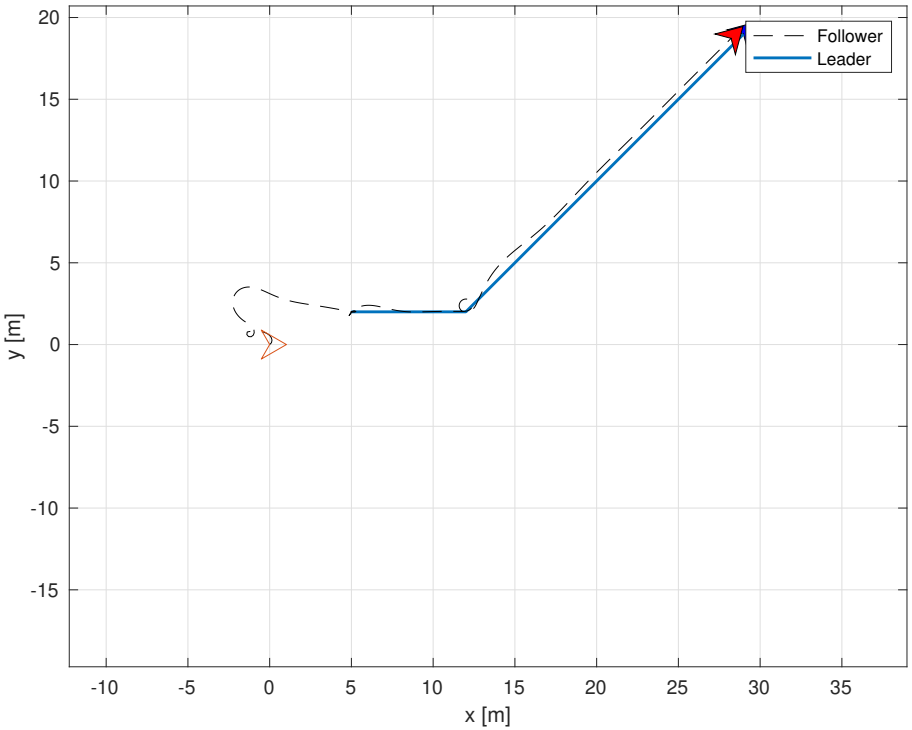

Figure: Trajectory

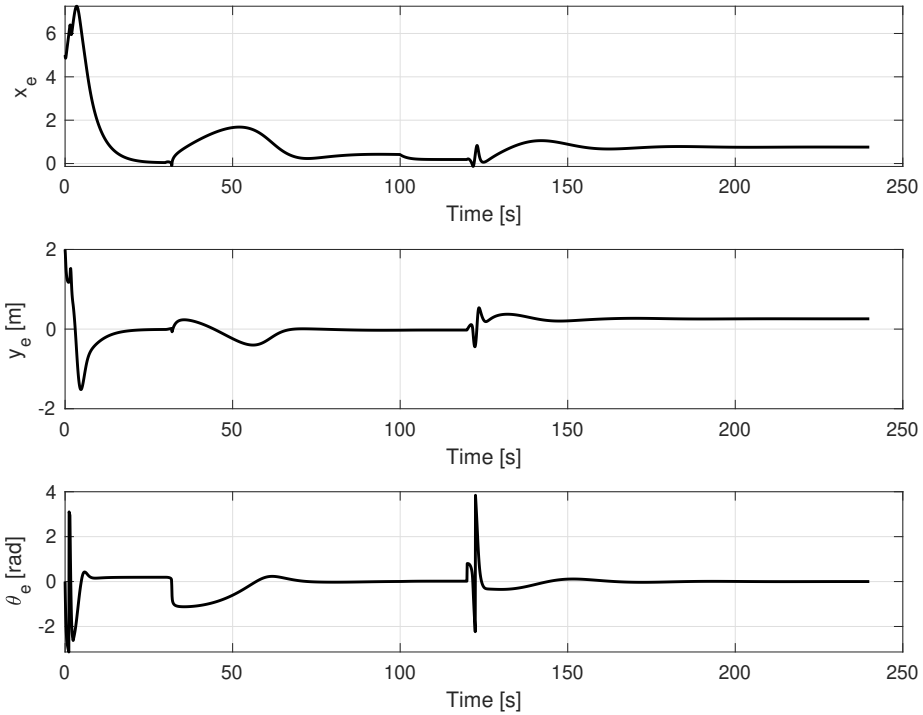

Figure: follower position error

Results

Sinewave path

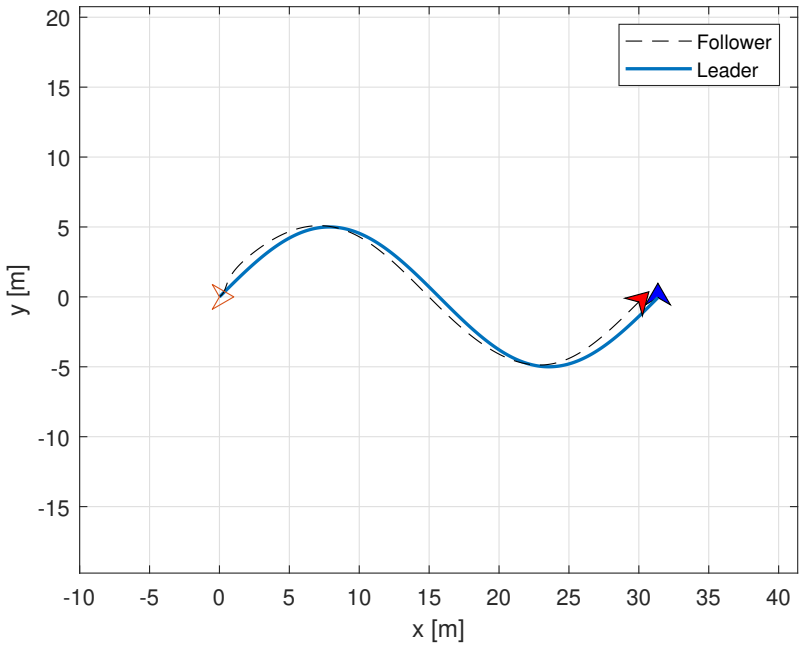

Figure: Trajectory

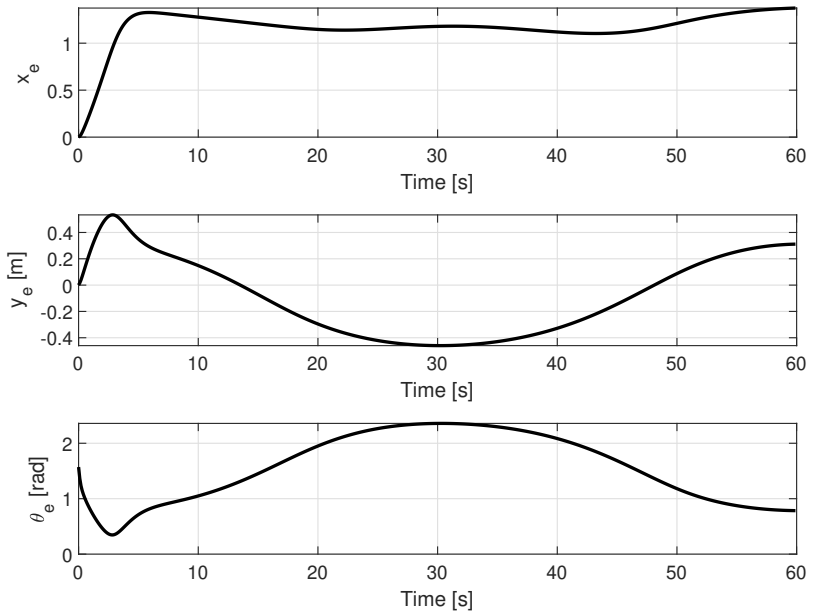

Figure: follower position error

Critic Weights Convergence

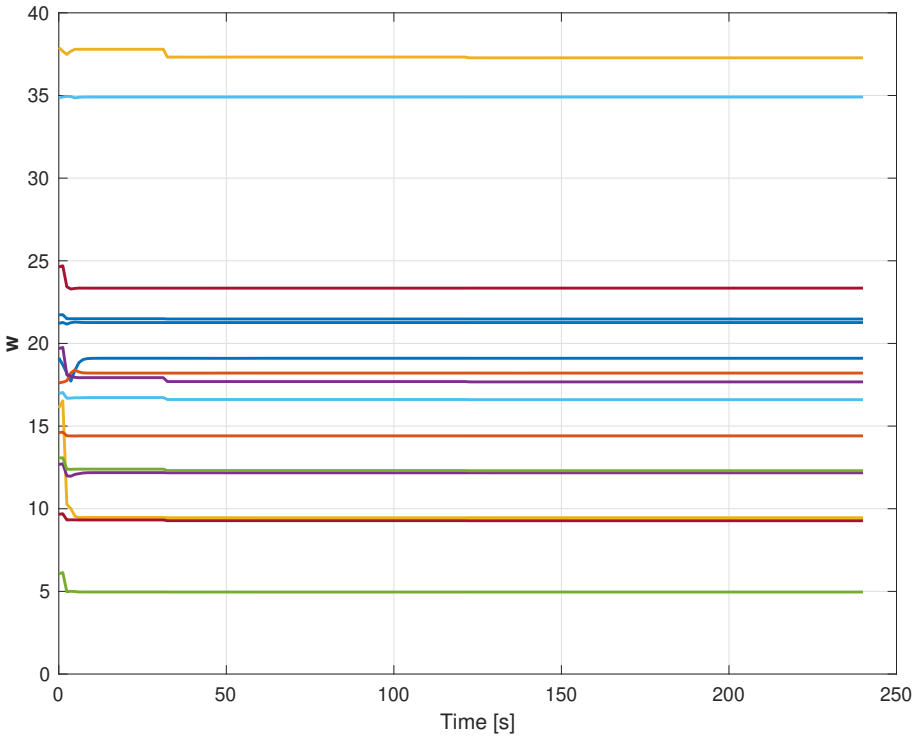

Figure: Rectlinear weights

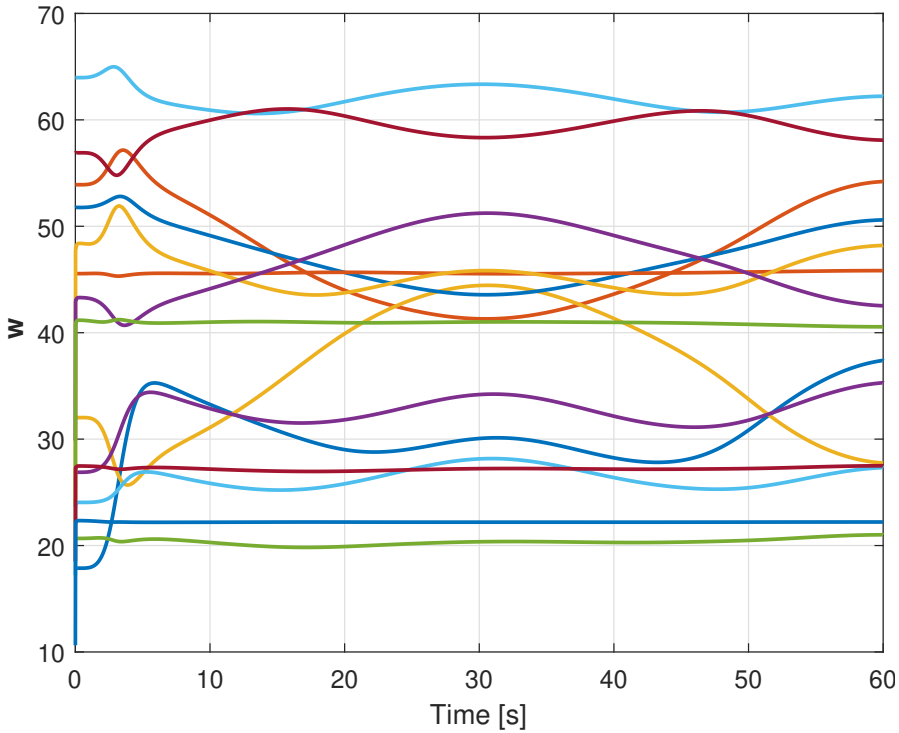

Figure: Sinewave weights

Remarks

- We couldn't maintain the theoritical condition of the weight matrix P to be positive definite all the time.
- Weights are barely changing and sometimes they converge very fast.
- Eeach scenario requires a different learning rate and a different initial weights.
- Analytical approach to find the initial p matrix.

Questions?