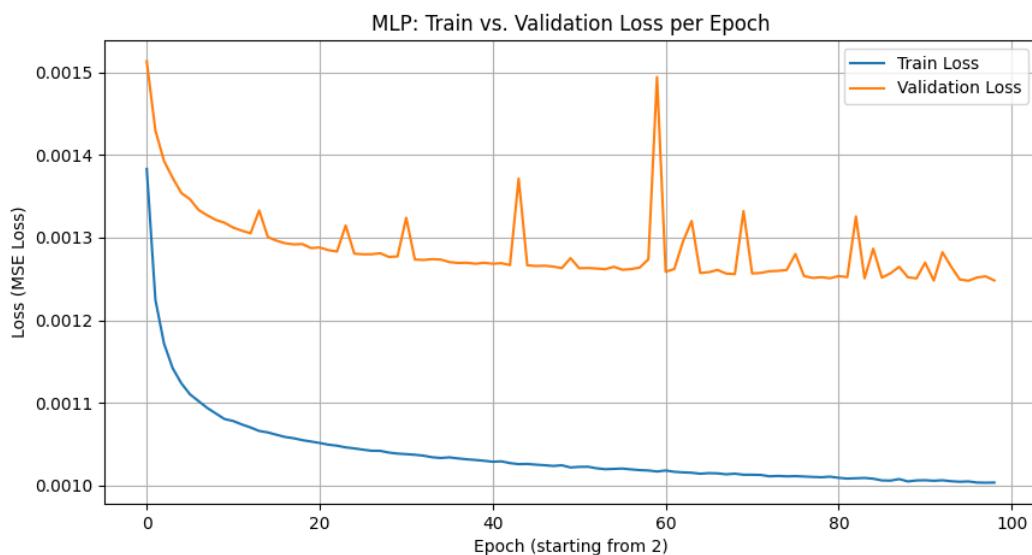


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## dataset\_nmpc.csv

### RUN #1 (MELHOR LOSS E VALIDATION)

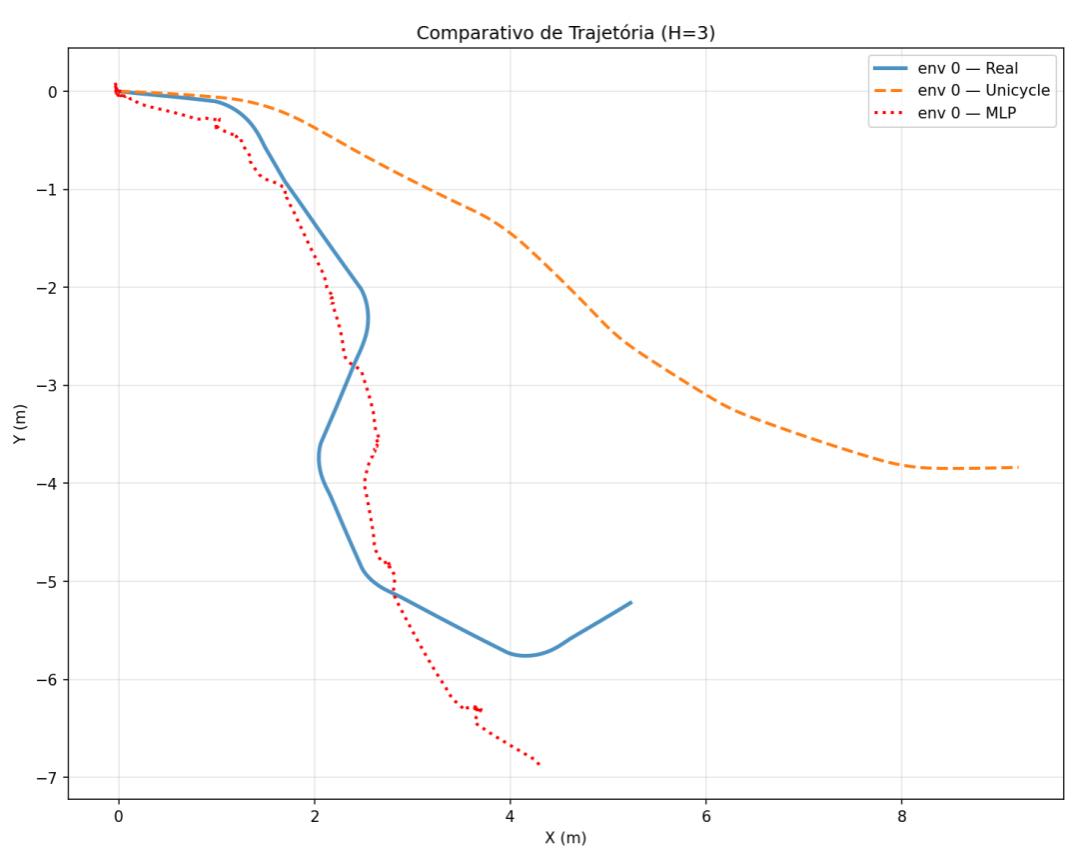
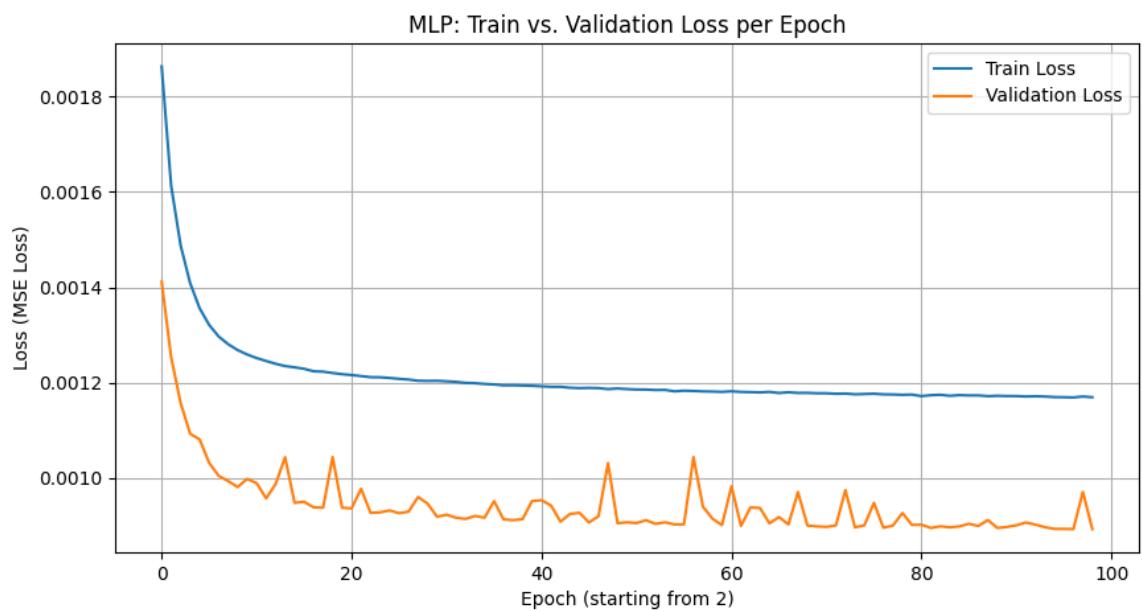
- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.0 (parece melhor sem)
- hidden\_layers: [5] → [128, 128, 128] → [3]
- train\_MSE: 0.001004
- val\_MSE: 0.001248

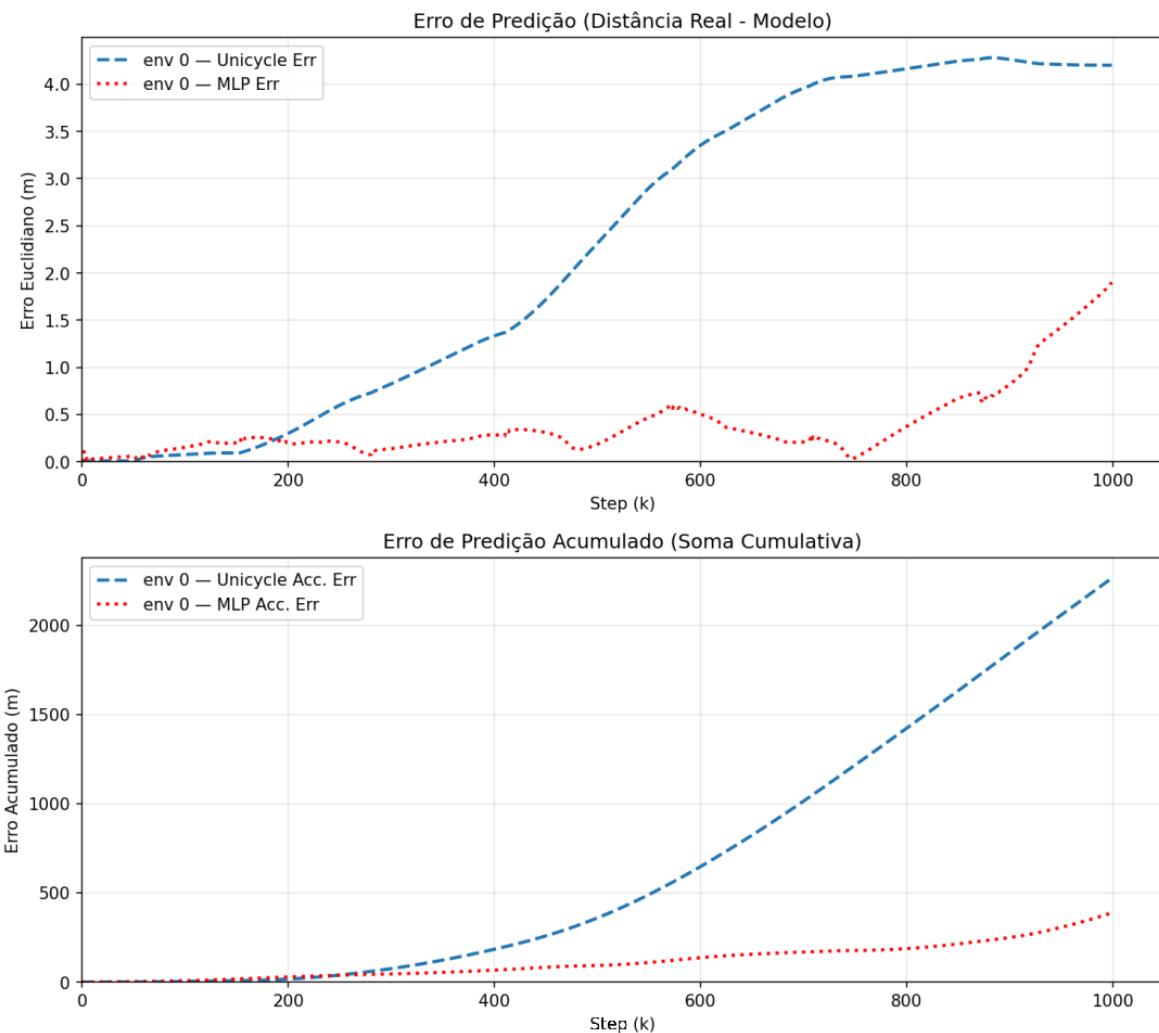


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### RUN #2

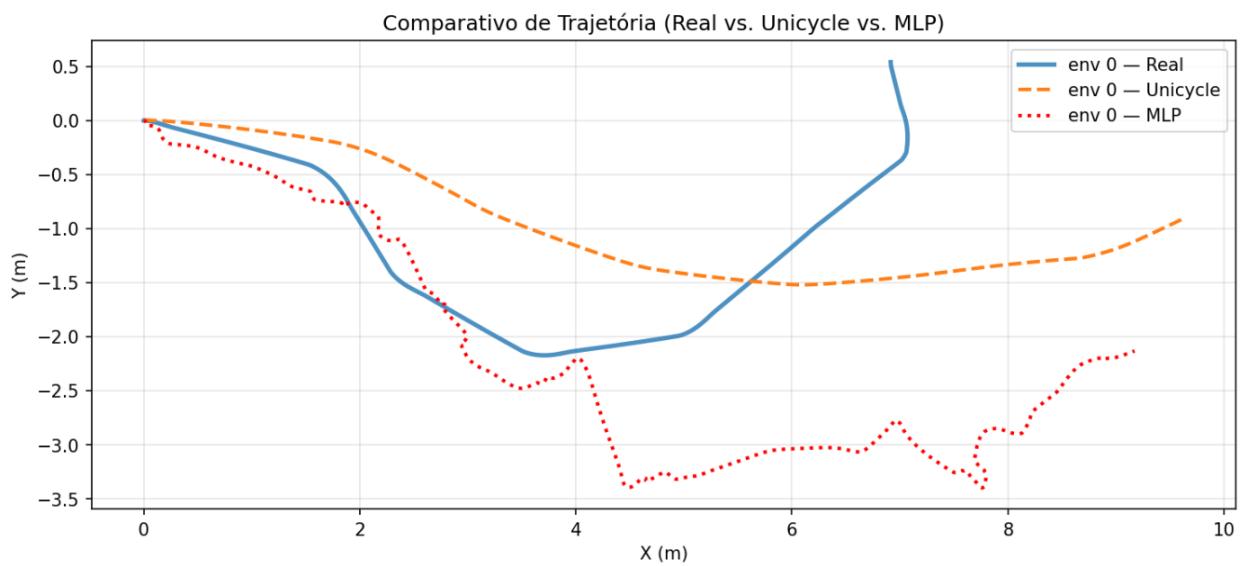
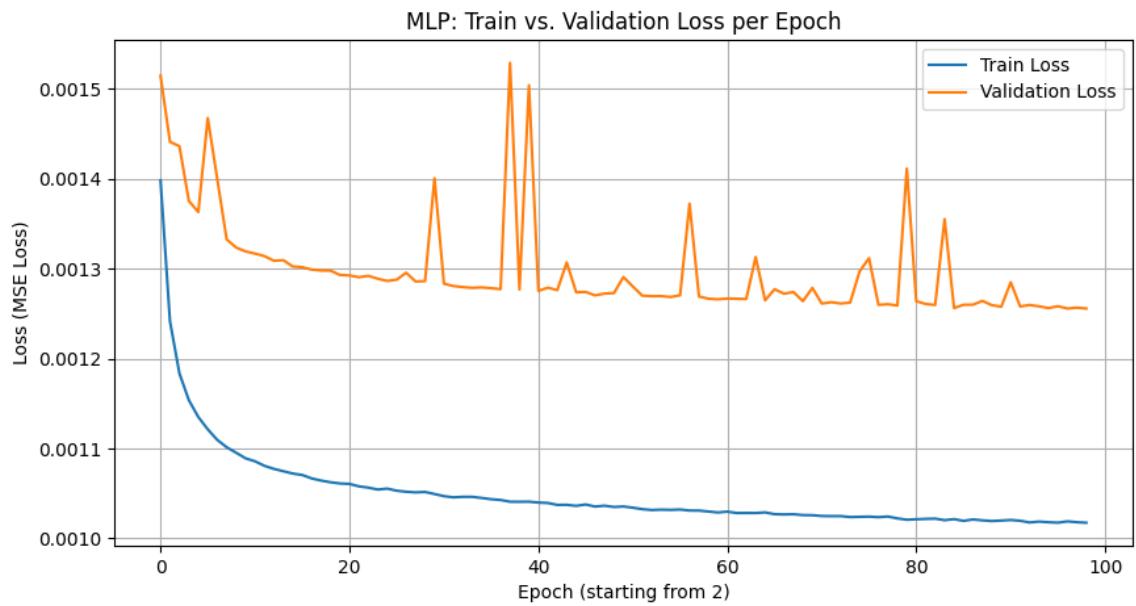
- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.0 (parece melhor sem)
- hidden\_layers: [15] → [128, 128, 128] → [3] (colocando 3 estados melhorou a validation)
- train\_MSE: 0.001169
- val\_MSE: 0.000892

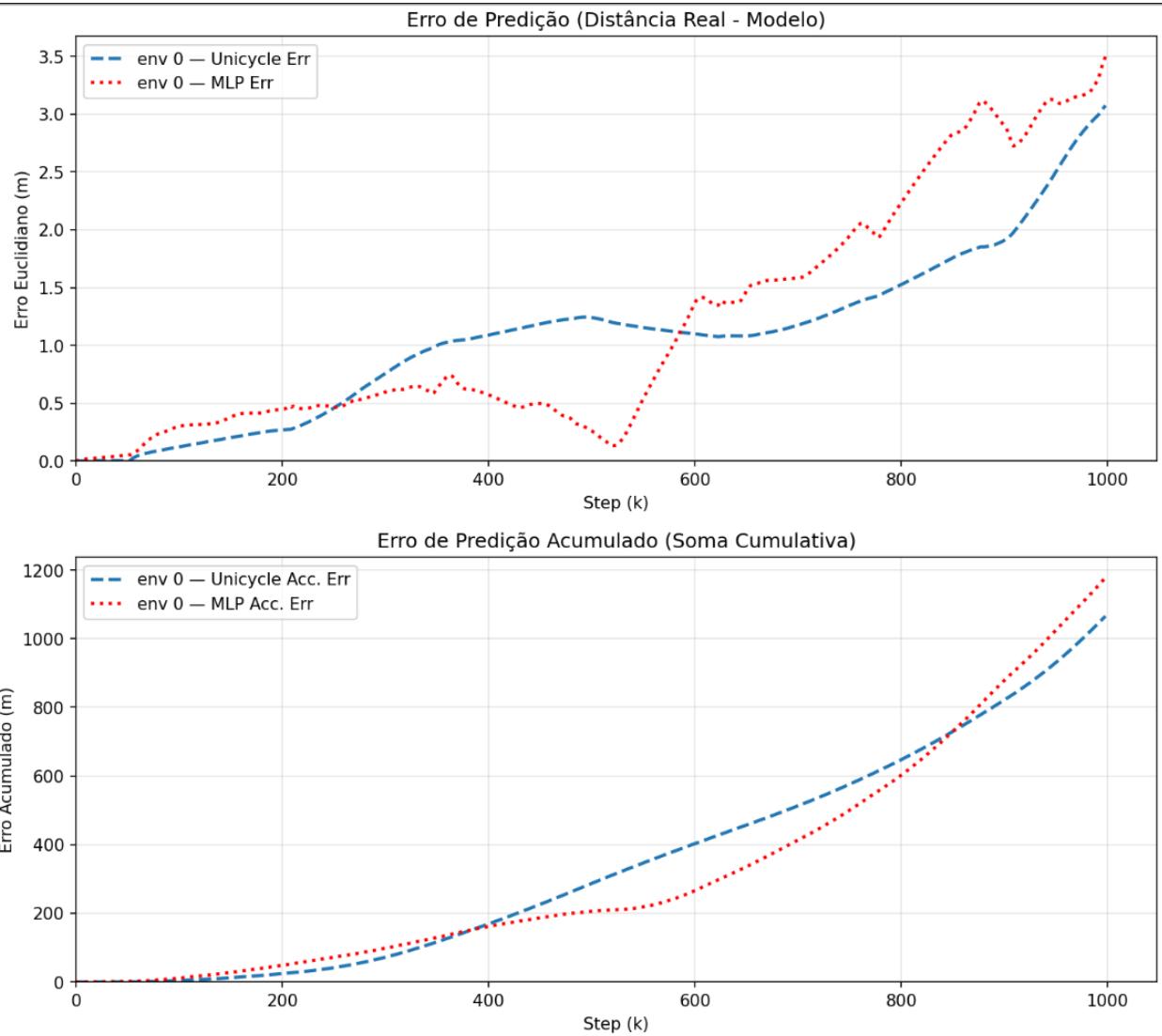




### RUN #3

- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.0 (parece melhor sem)
- hidden\_layers: [5] → [128, 128, 128, 128] → [3] (+1 camada parece priorar um pouco)
- train\_MSE: 0.001017
- val\_MSE: 0.001256

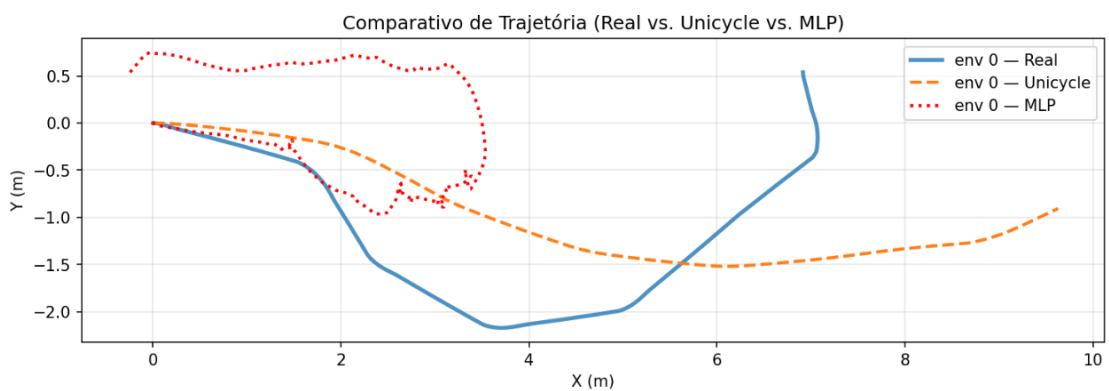
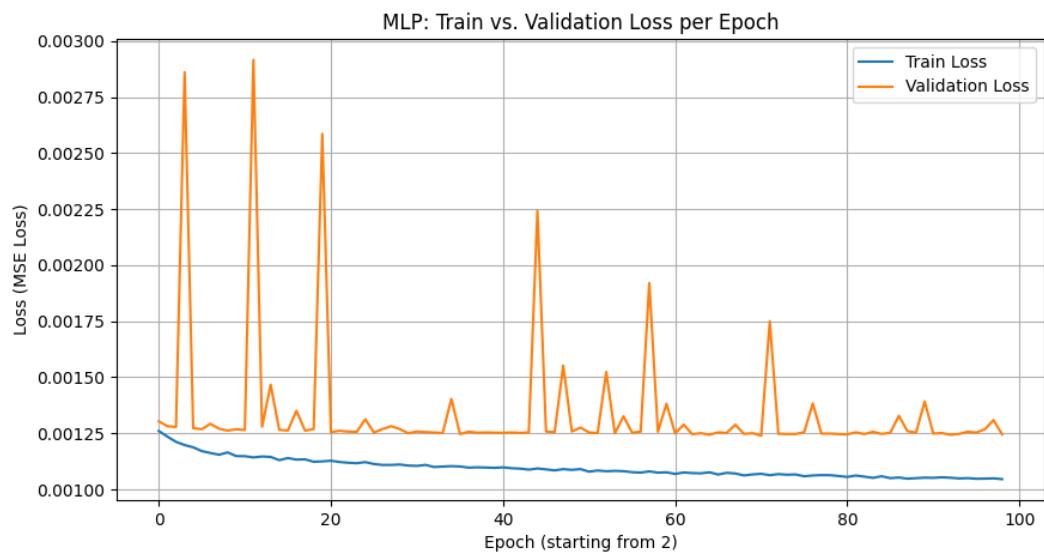


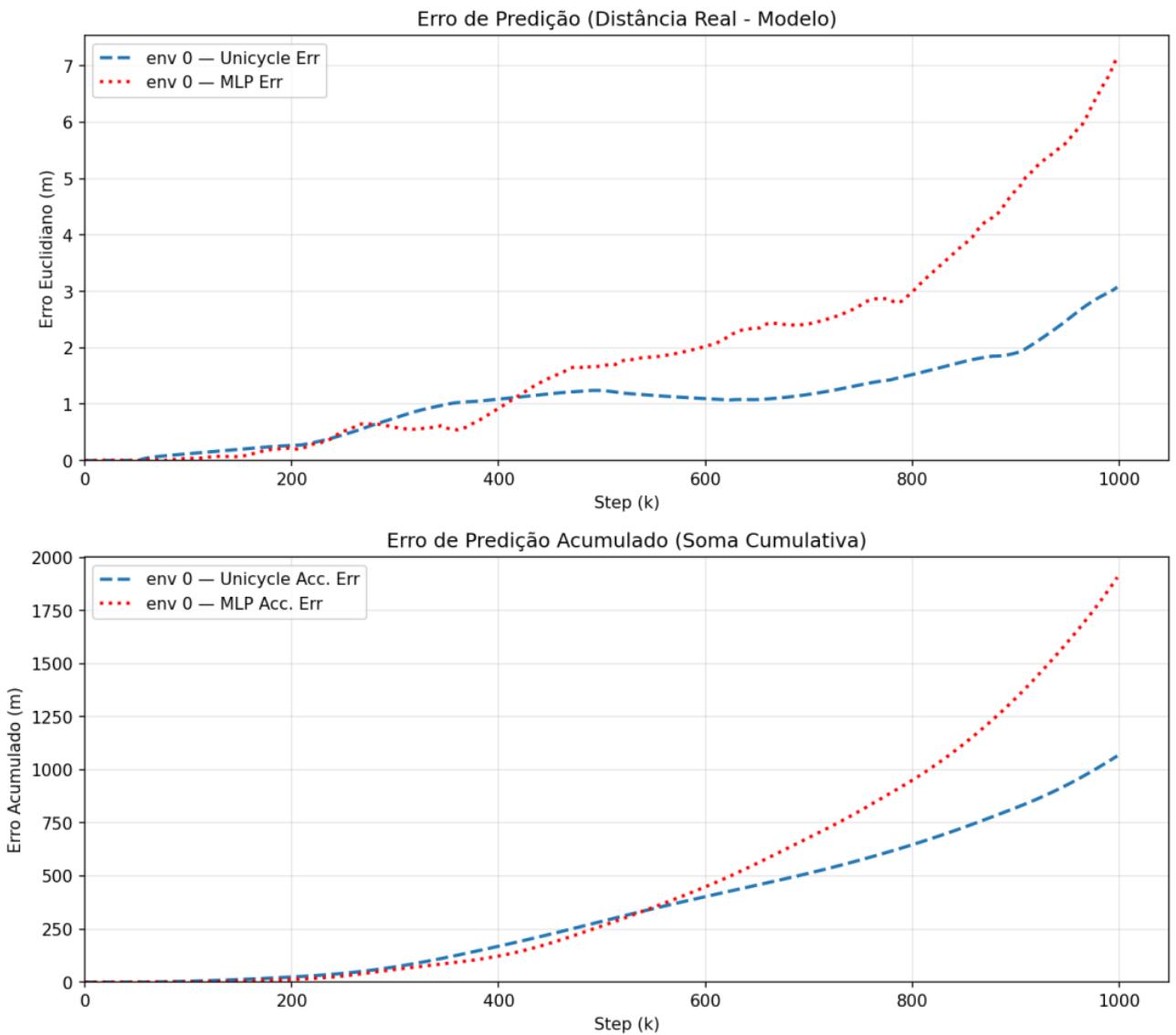


+

### RUN #x

- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.0 (parece melhor sem)
- hidden\_layers: [5] → [768, 768, 768, 768, 768, 768, 768, 768, 768] → [3]
- train\_MSE: 0.001045
- val\_MSE: 0.001245

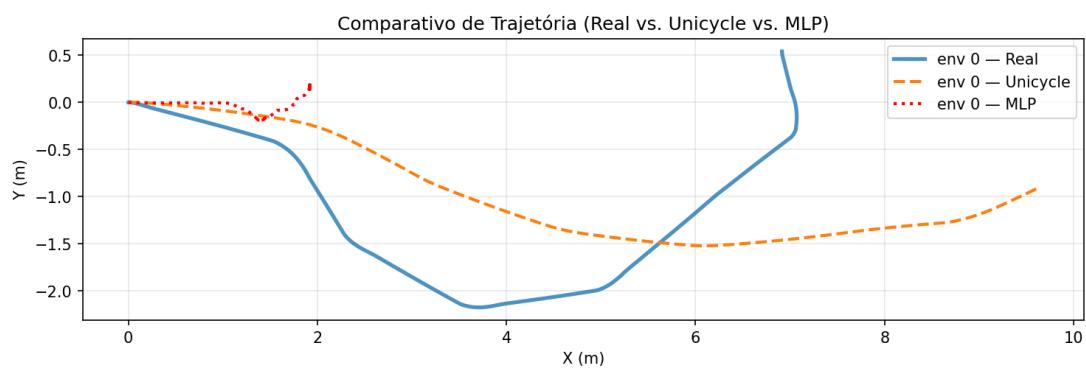
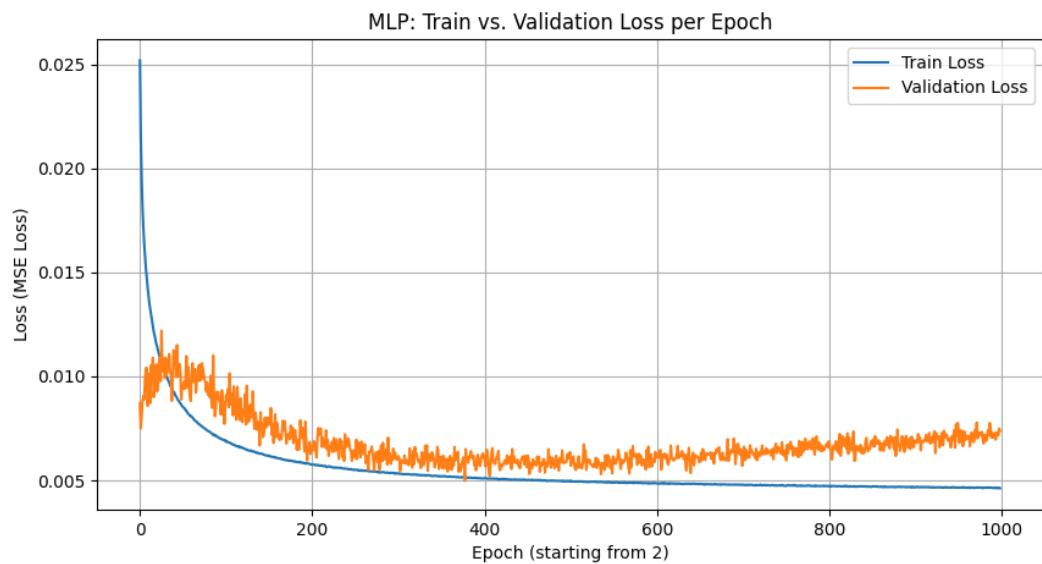


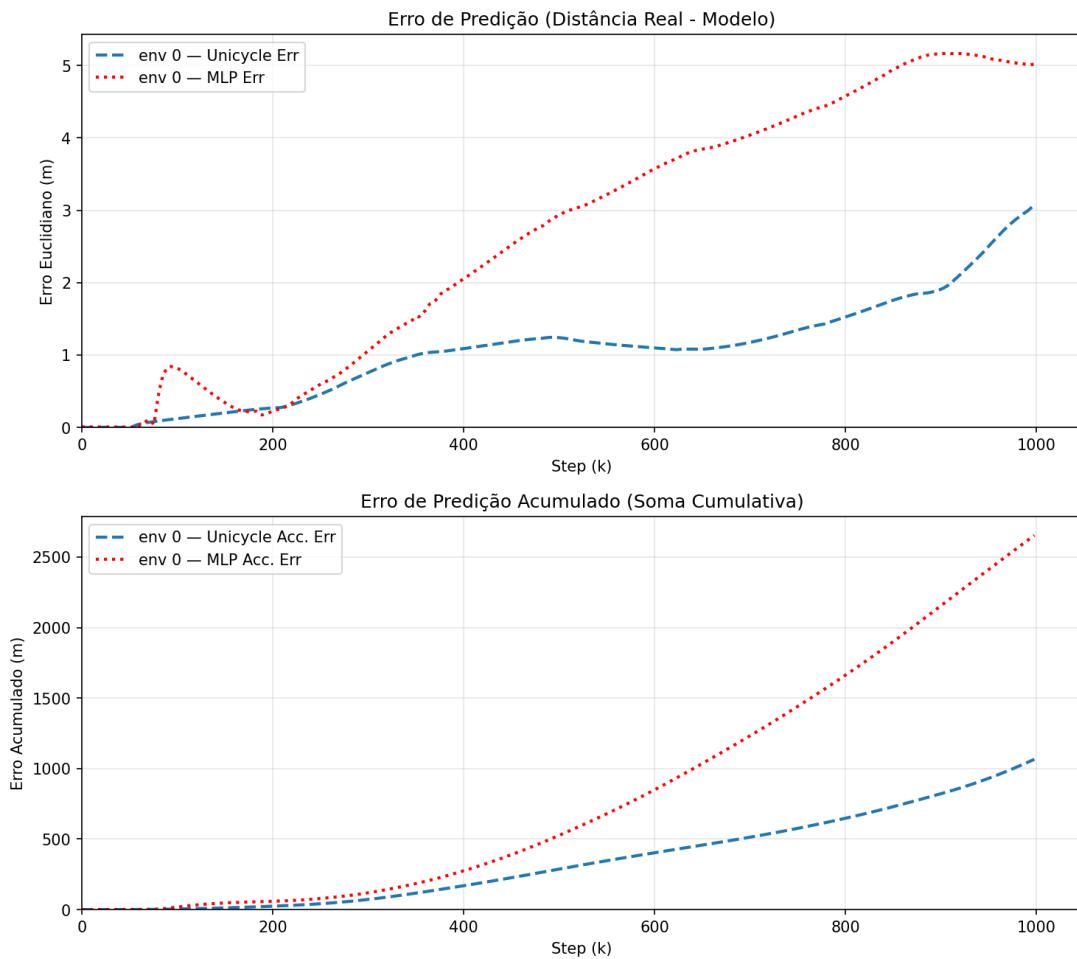


## RUN #x

- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.3 (parece melhor sem)
- hidden\_layers: [5] → [1024, 1024, 1024, 1024, 1024, 1024, 1024, 1024] → [3]
- train\_MSE: 0.004624

- val\_MSE: 0.007374

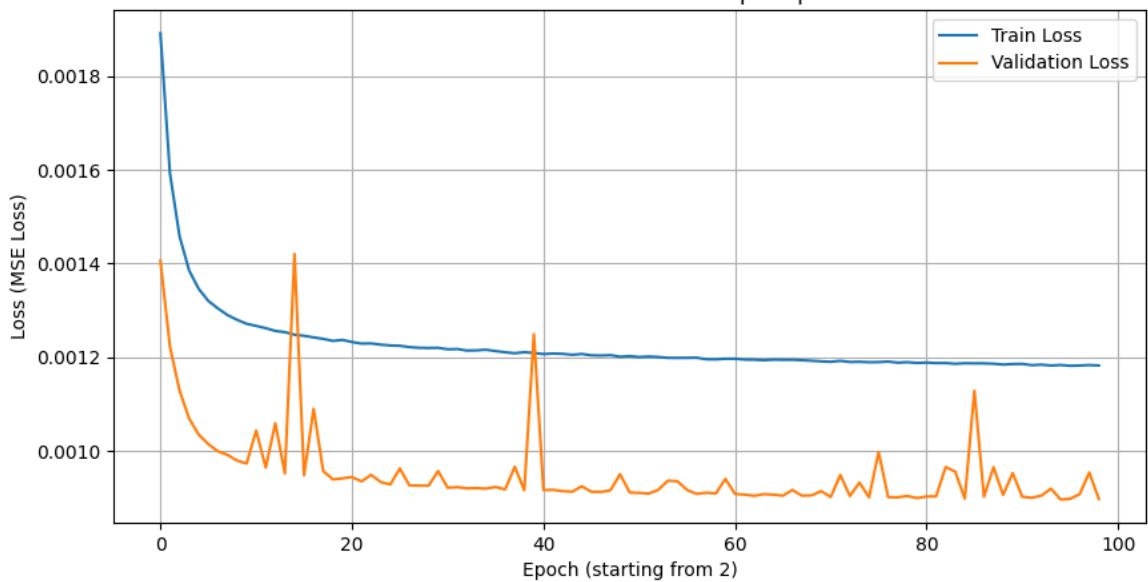




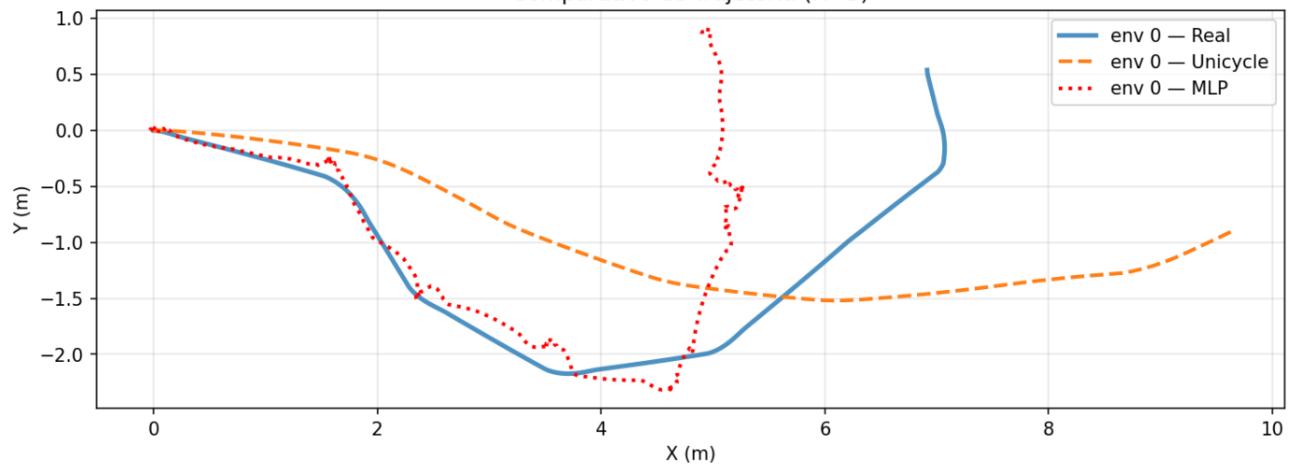
## RUN #5

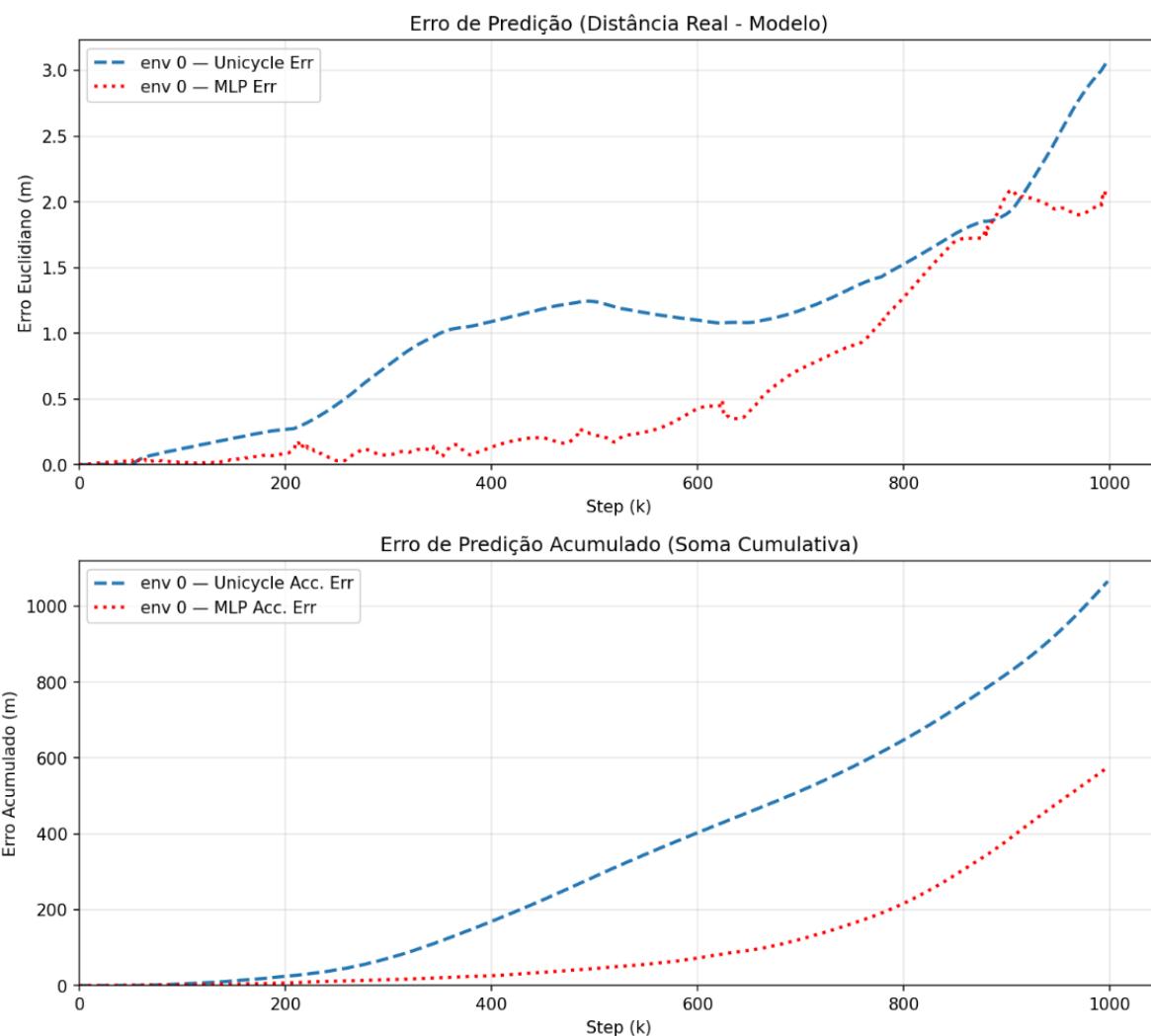
- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.0 (parece melhor sem)
- hidden\_layers: [15] → [128, 128, 128, 128] → [3] (colocando 3 estados melhorou a validation)
- train\_MSE: 0.001183
- val\_MSE: 0.000898

MLP: Train vs. Validation Loss per Epoch



Comparativo de Trajetória (H=3)



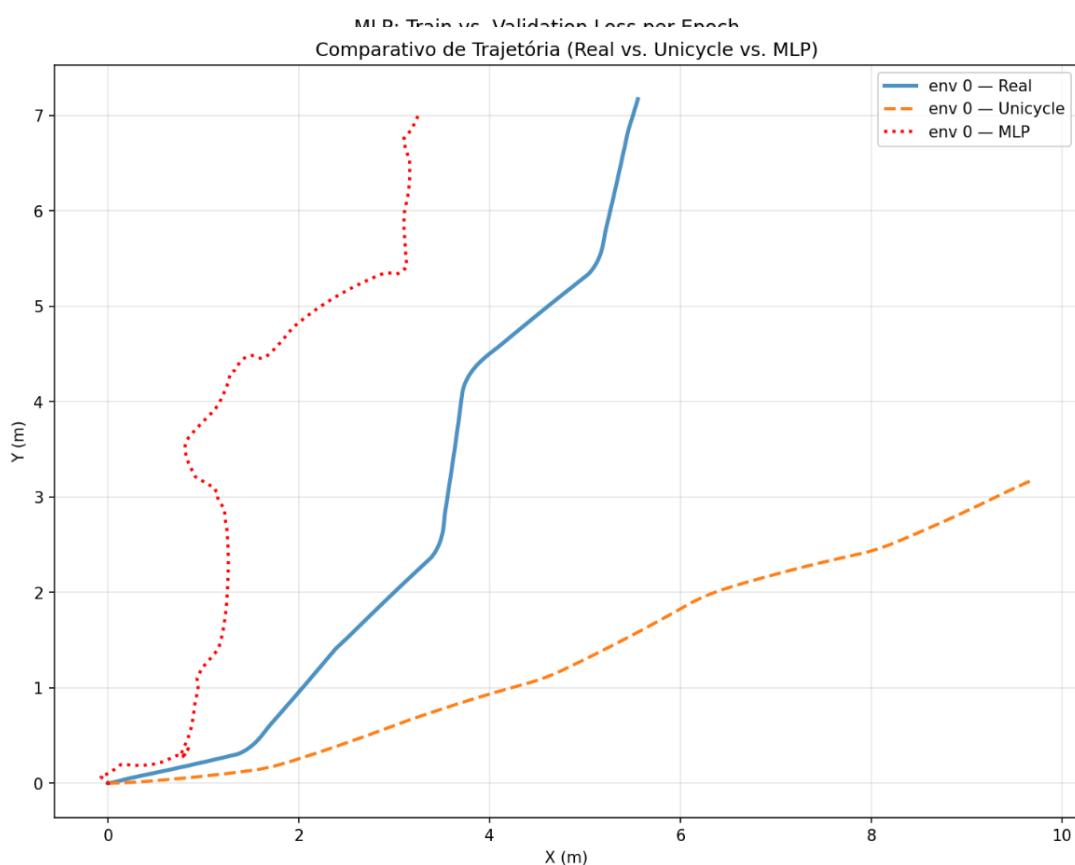


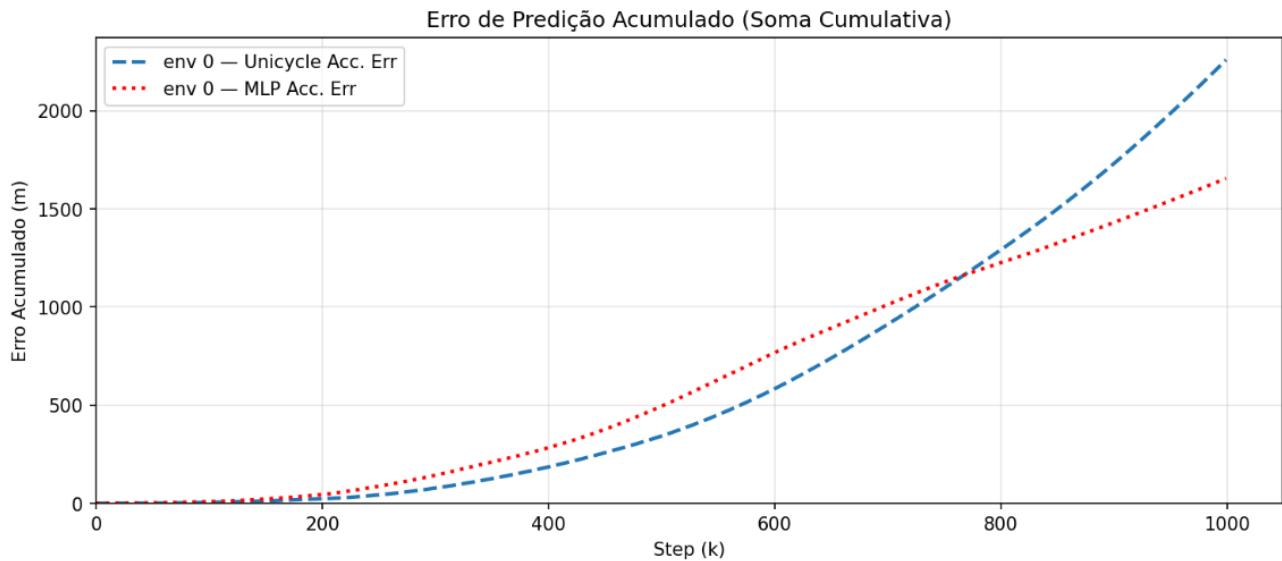
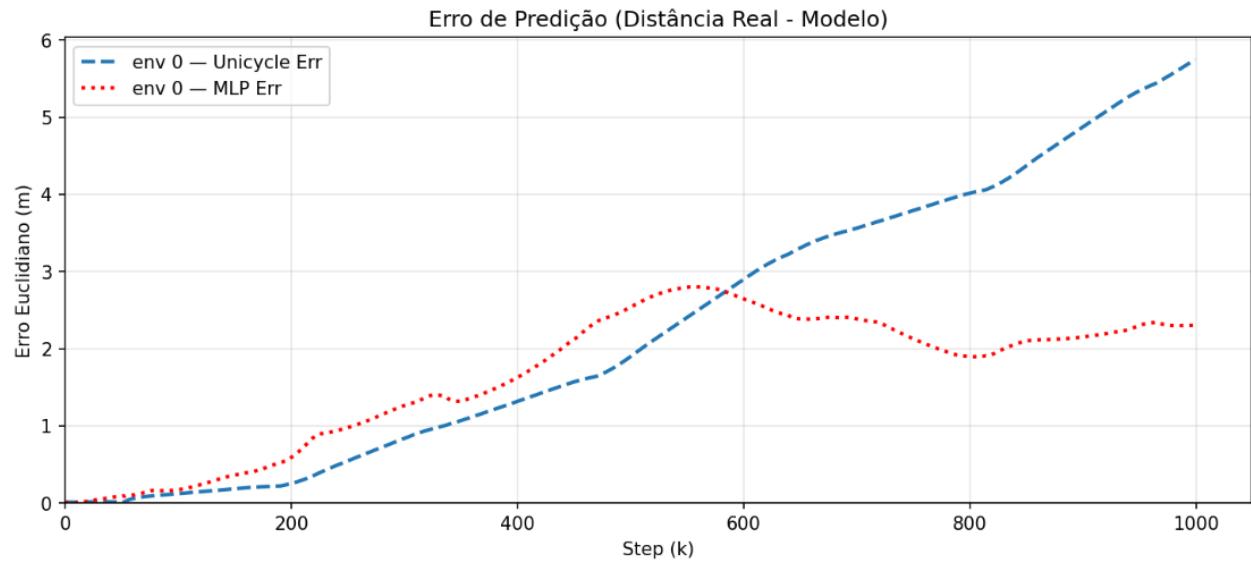
## RUN #5

- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.0 (parece melhor sem)
- hidden\_layers: [15] → [256, 256, 256, 256, 256] → [3] (colocando 3 estados melhorou a validation)
- train\_MSE: 0.00
- val\_MSE: 0.00

## RUN #6

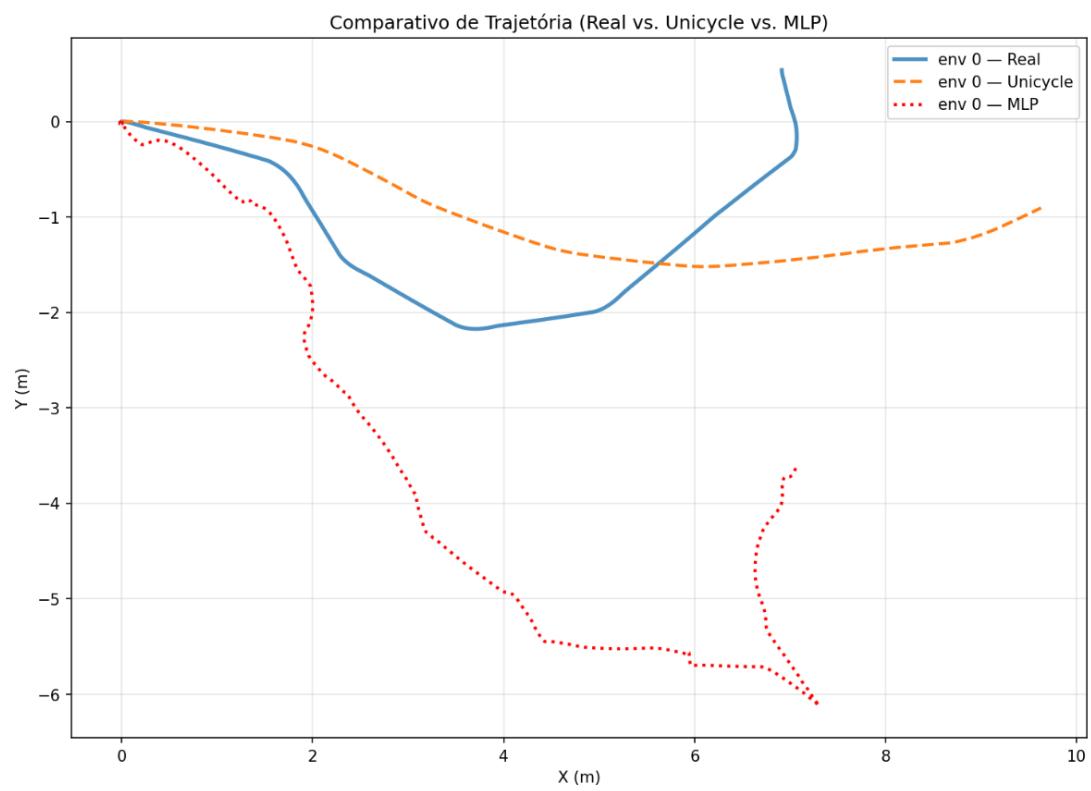
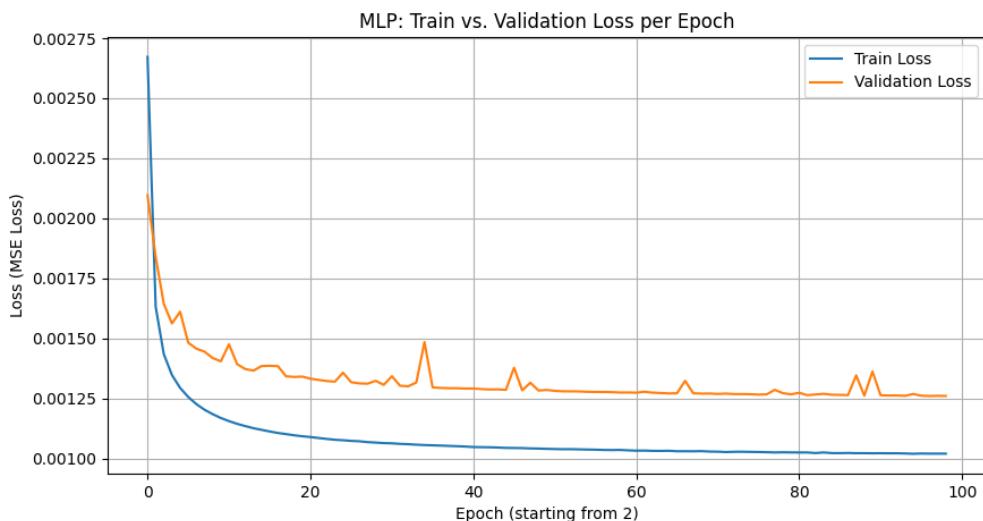
- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.0 (parece melhor sem)
- hidden\_layers: [5] → [64, 64, 64] → [3] (piorou em comparação com 128 neurônios)
- train\_MSE: 0.001012
- val\_MSE: 0.001267

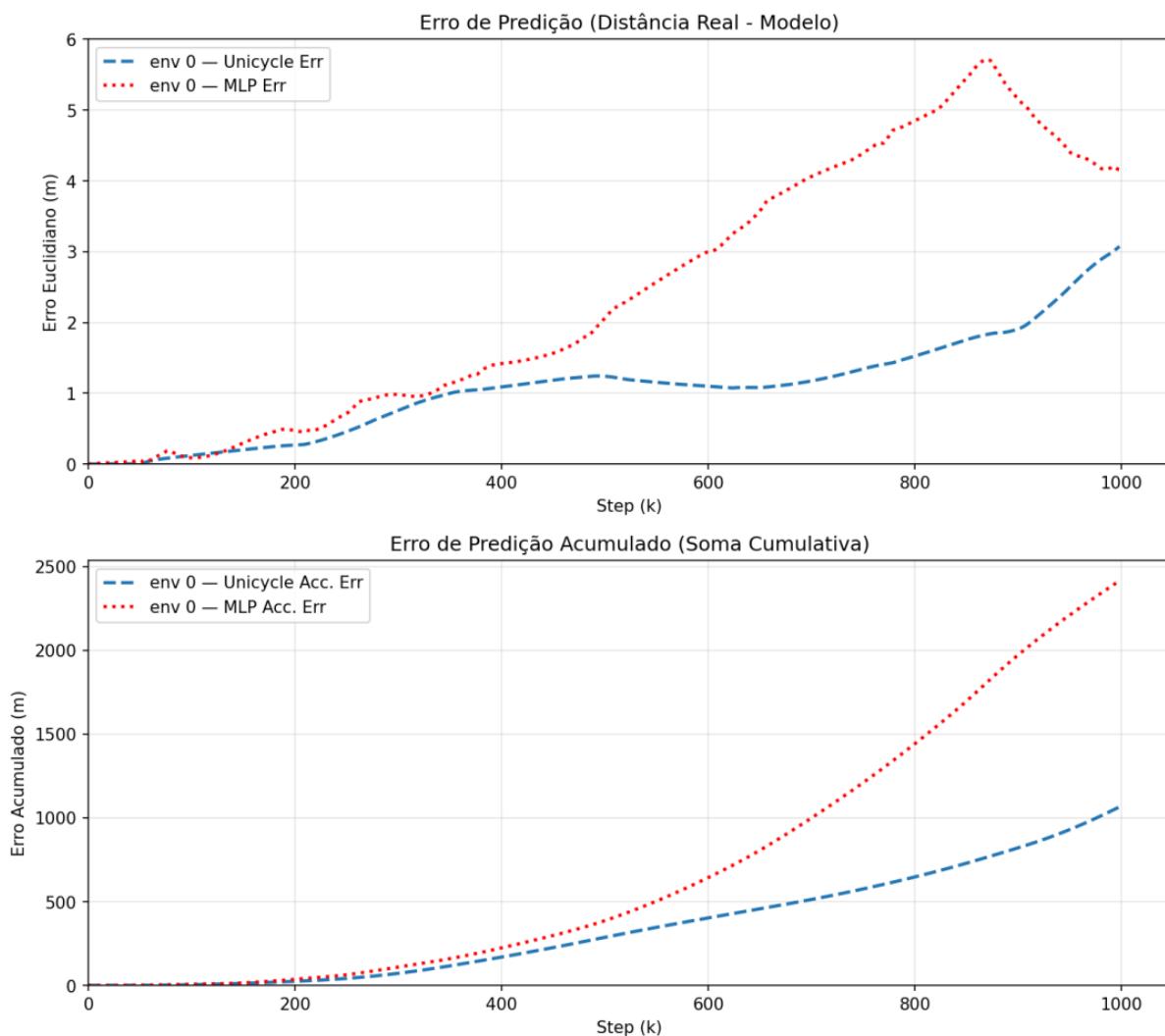




## RUN #7

- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.0 (parece melhor sem)
- hidden\_layers: [5] → [64, 64, 64, 64] → [3]
- train\_MSE: 0.001020
- val\_MSE: 0.001260

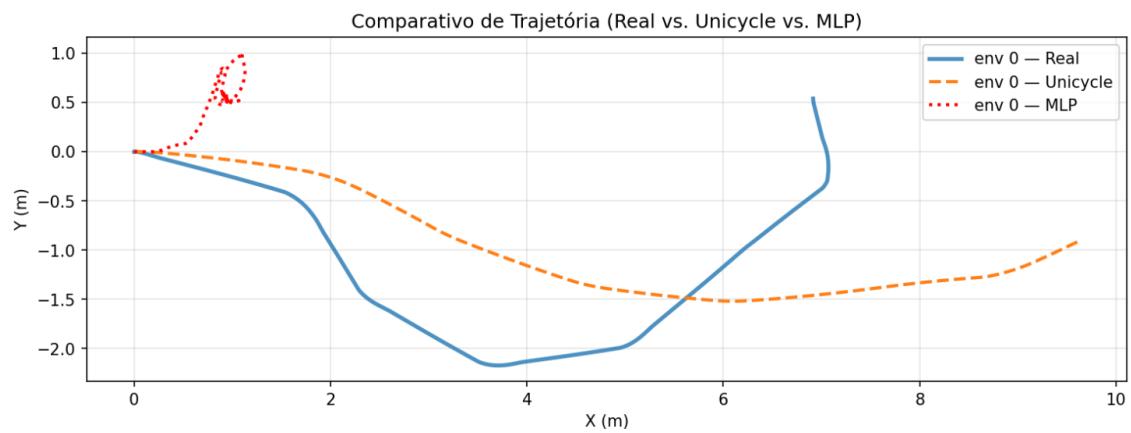
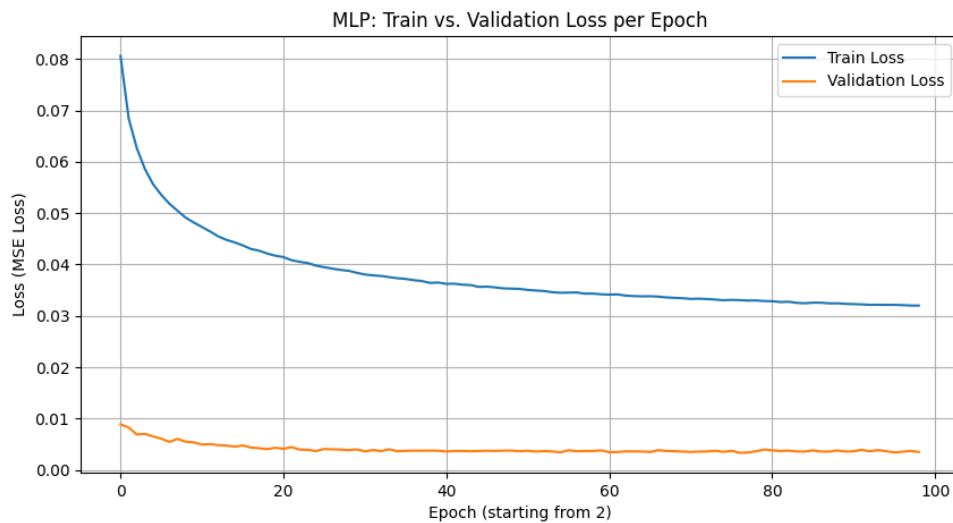


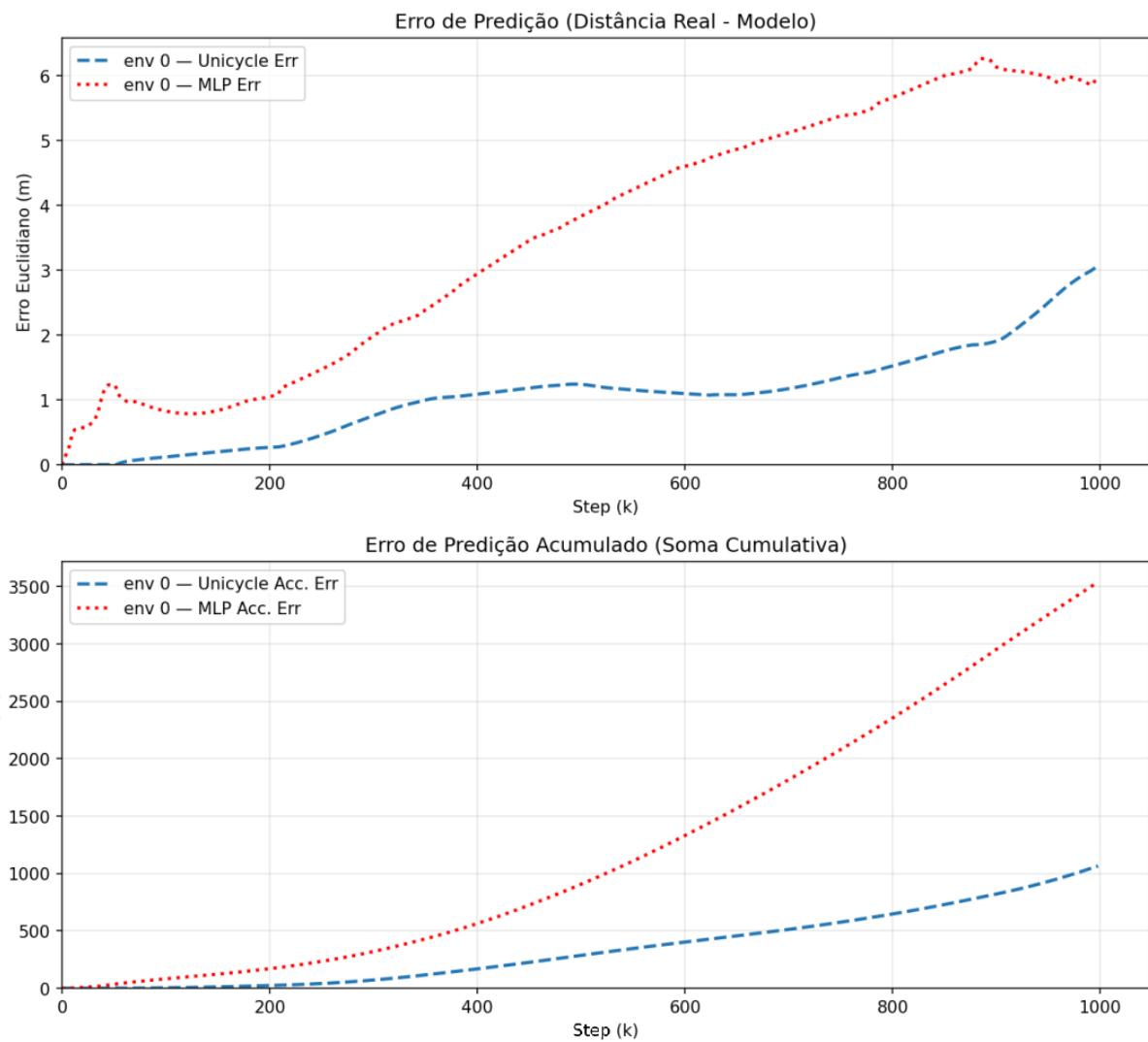


## RUN #x

- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.3 (parece foder com tudo)
- hidden\_layers: [5] → [128, 128, 128] → [3]
- train\_MSE: 0.031998

- val\_MSE: 0.003484

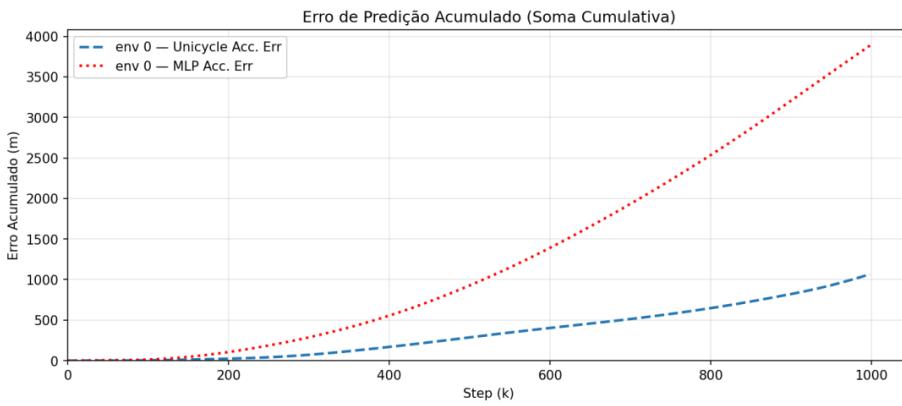
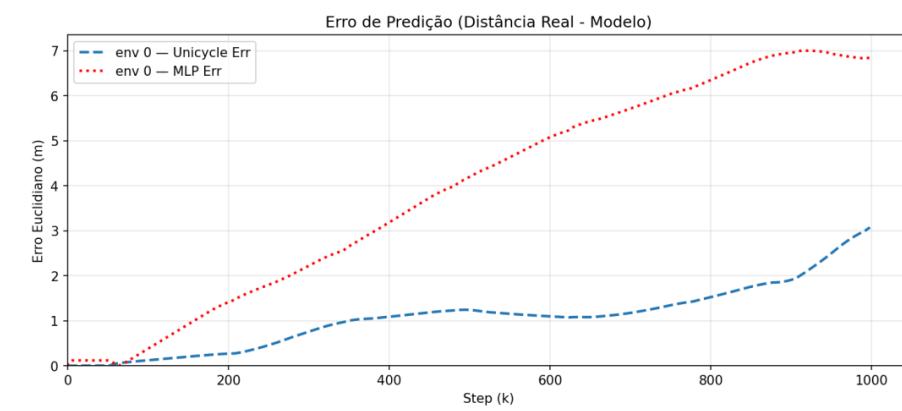
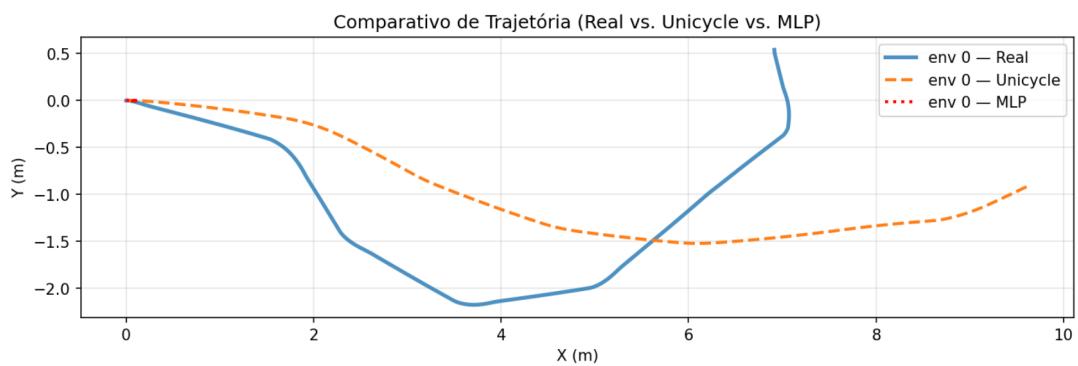
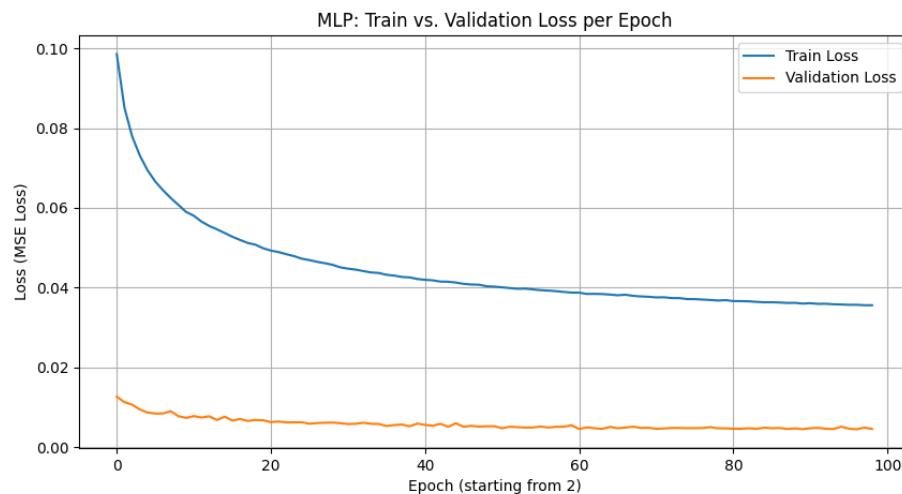




## RUN #x

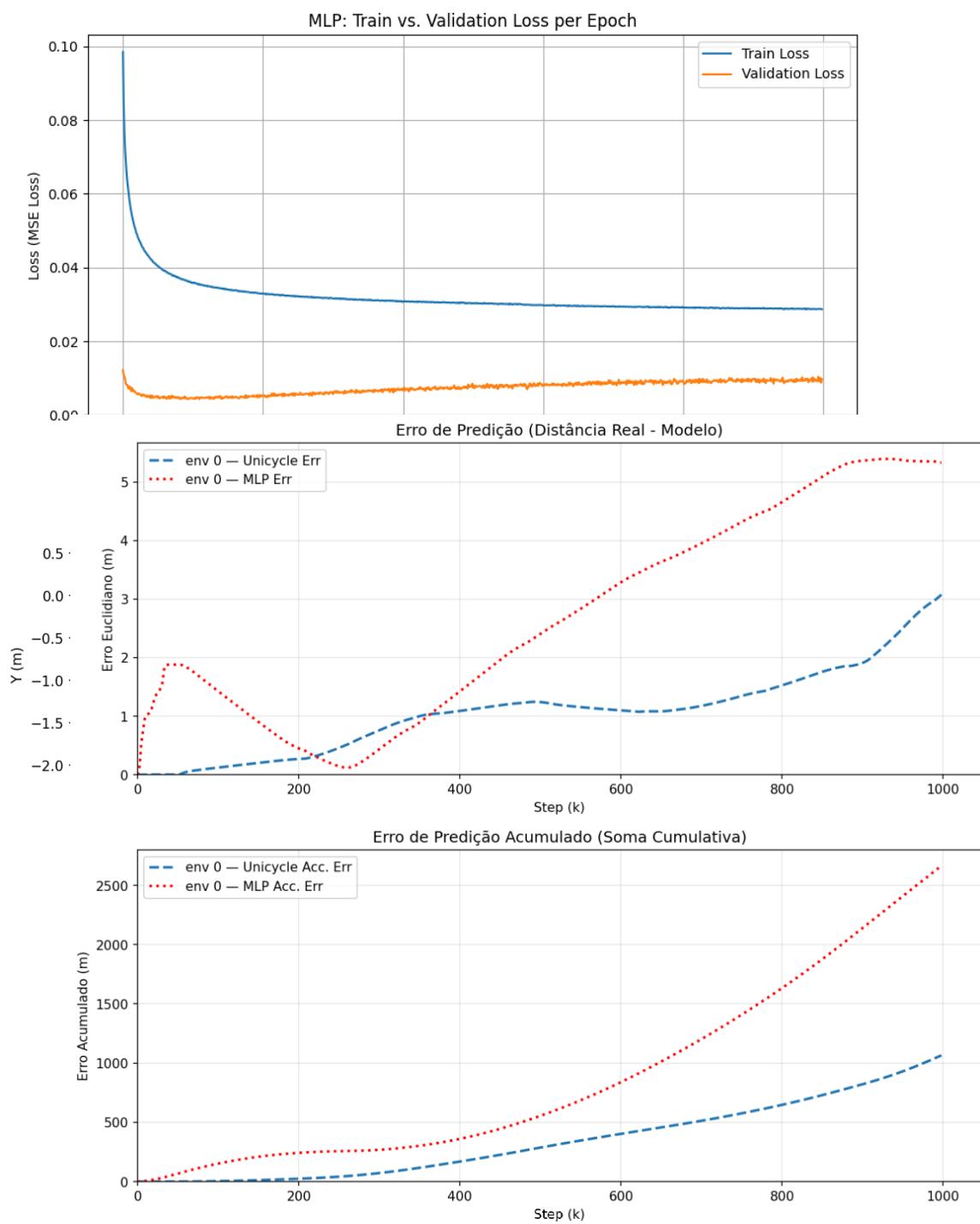
- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.3 (parece foder com tudo)
- hidden\_layers: [5] → [128, 128, 128, 128] → [3] (+1 camada parece ter piorado)
- train\_MSE: 0.035550

- val\_MSE: 0.004525



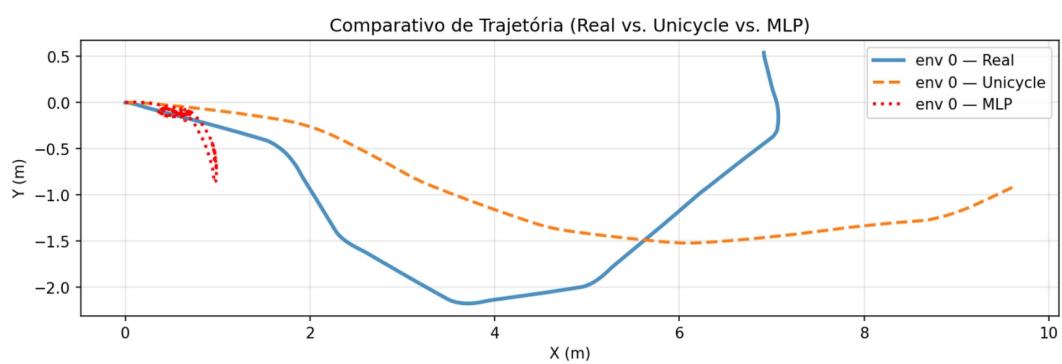
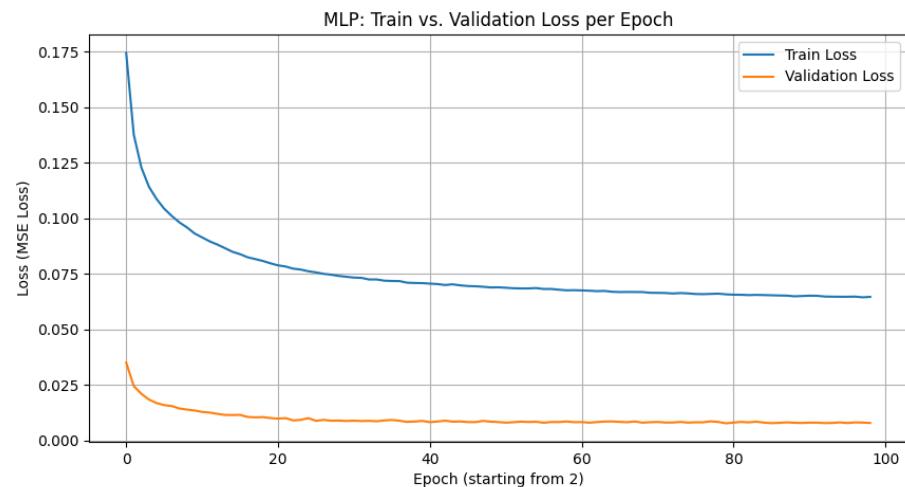
## RUN #x

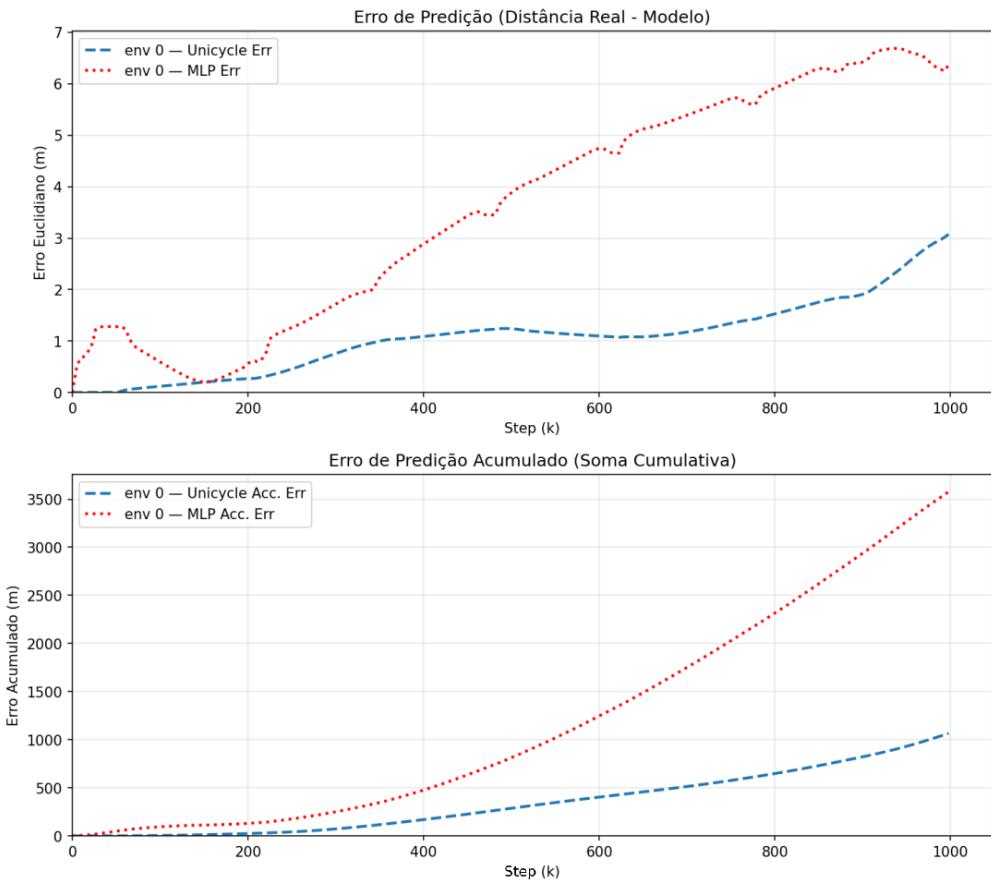
- epoch: 1000 (deixei tempo demais e a validation melhorou e começou a piorar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.3 (parece foder com tudo)
- hidden\_layers: [5] → [128, 128, 128, 128] → [3] (+1 camada parece ter piorado)
- train\_MSE: 0.028693
- val\_MSE: 0.009739



## RUN #x

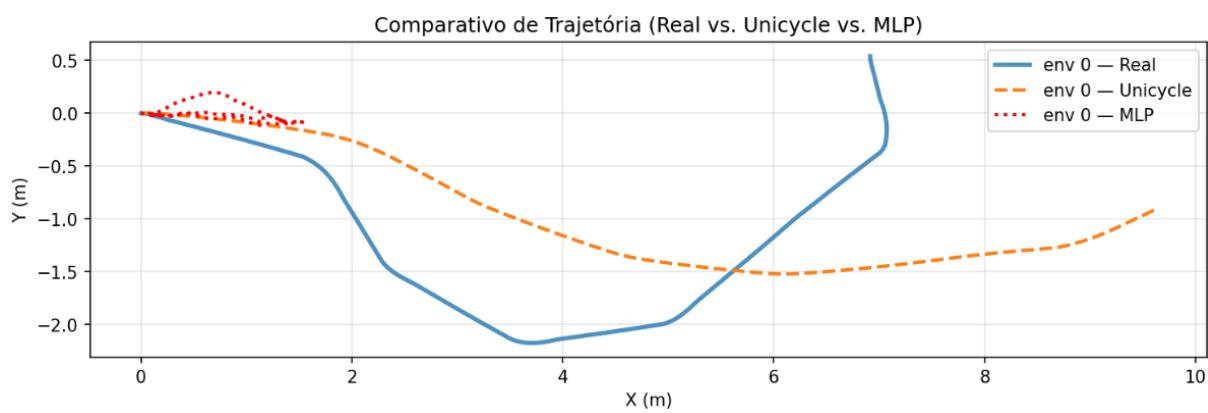
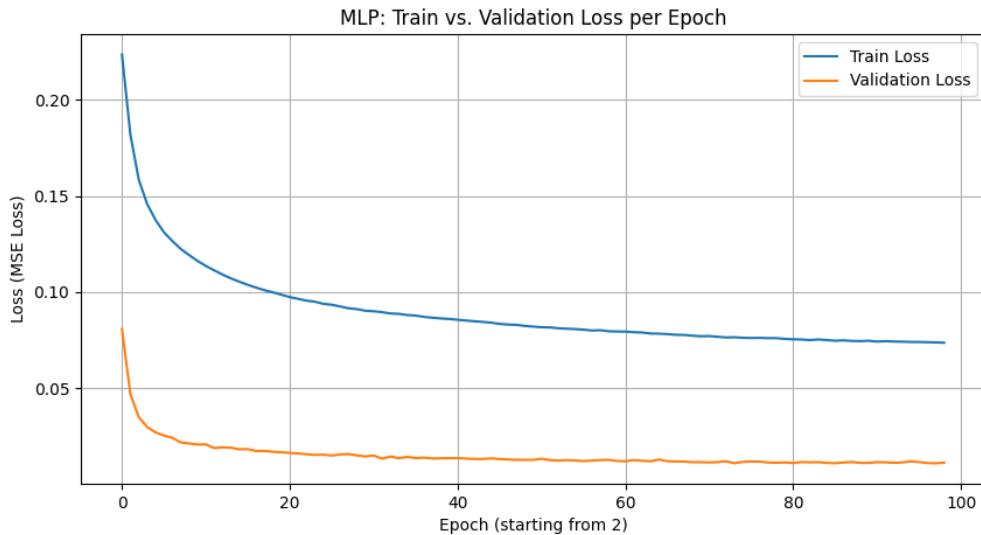
- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.3 (parece foder com tudo)
- hidden\_layers: [5] → [64, 64, 64] → [3] (piorou em comparação com 128 neurônios)
- train\_MSE: 0.064684
- val\_MSE: 0.007977

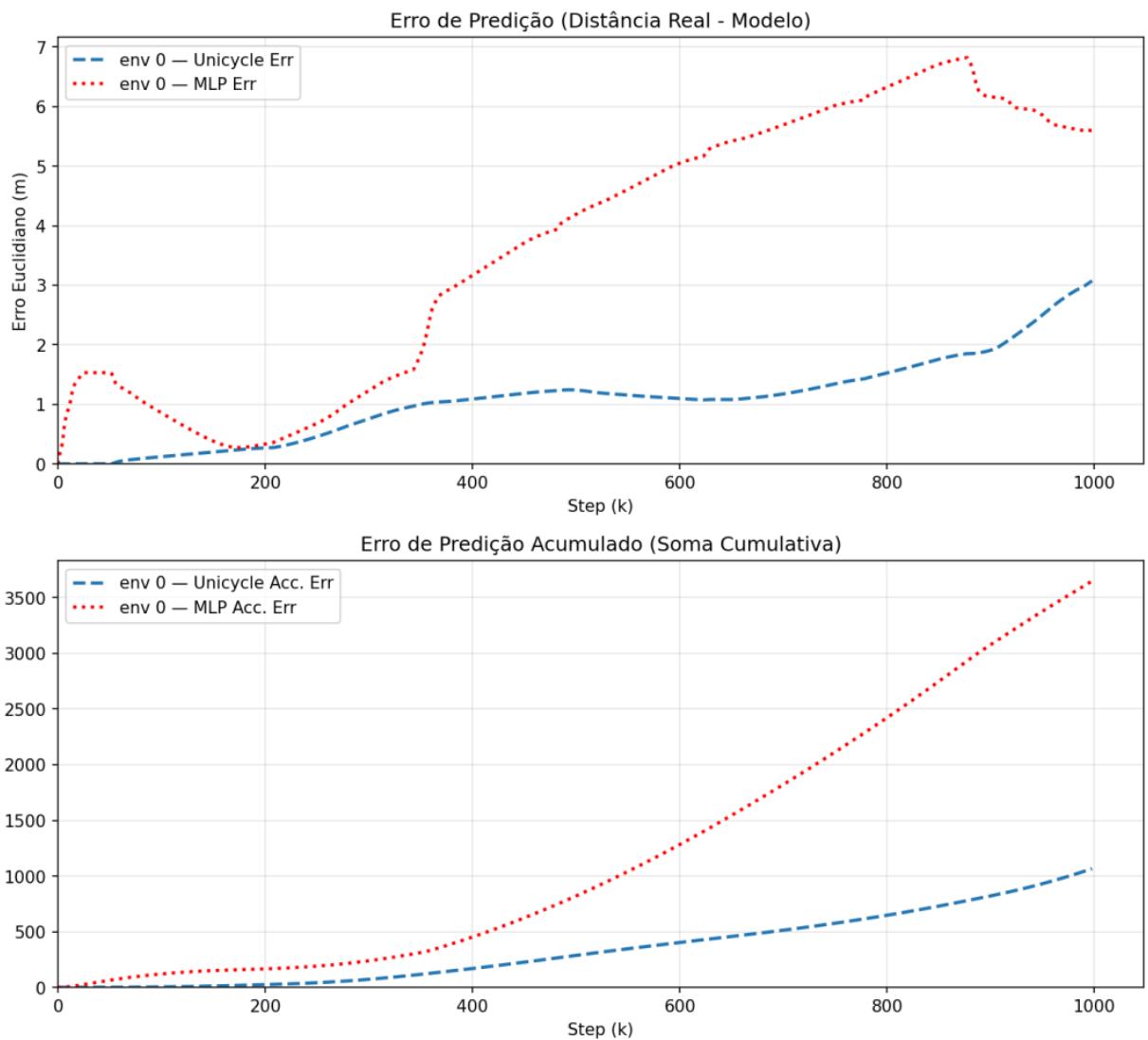




## RUN #x

- epoch: 100 (da pra aumentar)
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.3 (parece foder com tudo)
- hidden\_layers: [5] → [64, 64, 64, 64] → [3] (+1 camada parece ter piorado)
- train\_MSE: 0.073677
- val\_MSE: 0.011333

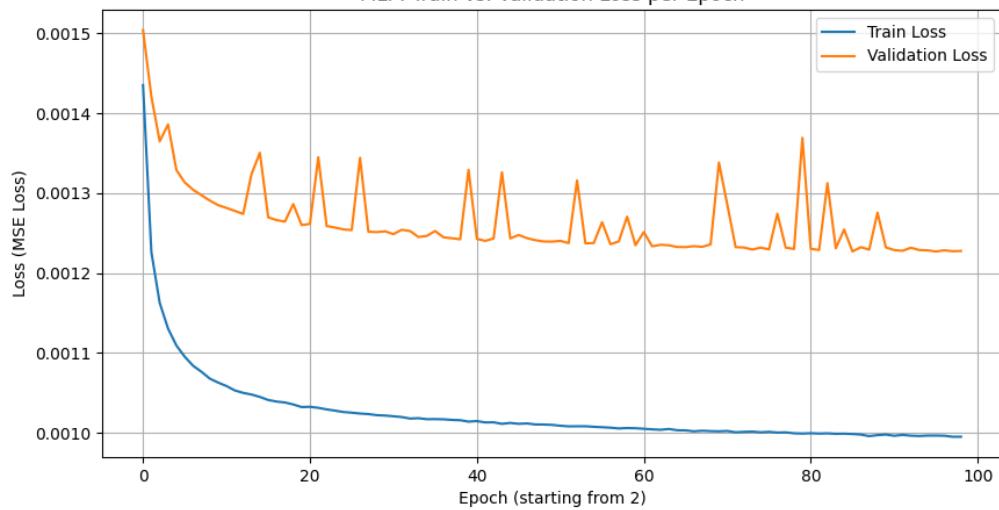




## dataset\_nmpc\_better.csv

- epoch: 100
- batch: 64
- learning\_rate: 0.00001
- val\_split: 0.3
- p\_dropout: 0.0
- hidden\_layers: [5] → [128, 128, 128] → [3]

MLP: Train vs. Validation Loss per Epoch



- train\_MSE: 0.000995
- val\_MSE: 0.001228