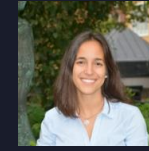


CORRECTIONAL LEARNING

Poster PC06

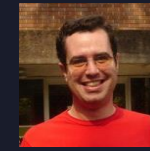
A Framework for Cooperative System Identification



Inês Lourenço



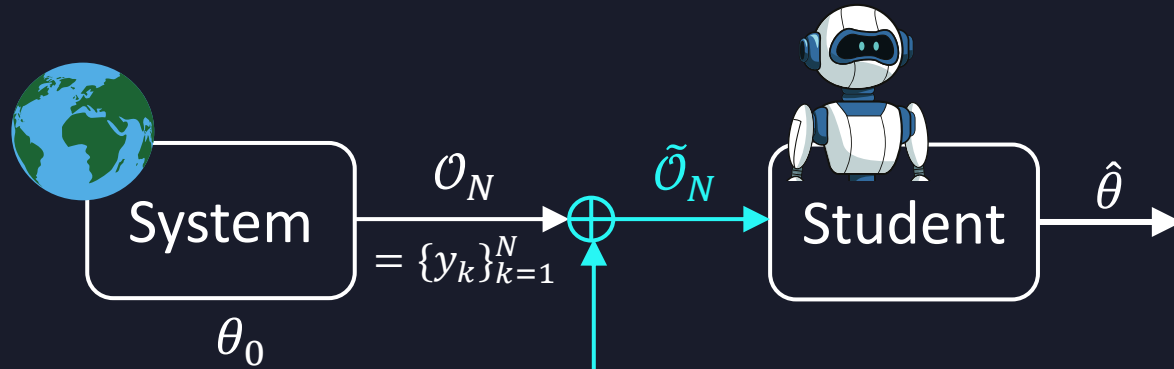
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Setup:

The student samples observations from the system

$$y_k \sim p(y|y_{k-1}, \dots, y_1; \theta_0)$$

And uses them to estimate a model of the system

$$\hat{\theta} \in \arg \min_{\theta \in \Theta} F(\theta, \mathcal{O}_N)$$

Goal: Find the true parameter θ_0

Problem:

Can a teacher **improve** the learning process of the student?



For a consistent estimator, "improving" can mean:

$$\hat{\theta} \rightarrow \theta_0 \text{ "fast"} \quad ||\hat{\theta}_N - \theta_0|| \text{ "small"}$$

Answer: Yes!

By **altering the observations** $\tilde{\mathcal{O}}_N$ received by the student