

## **An Introduction to System-theoretic Methods for Model Reduction - Part II - Interpolatory Methods**

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In this talk, we will discuss interpolatory methods for model reduction. We will start with the fundamentals of projection-based approaches to interpolatory methods, followed by the data-driven framework where the data correspond to sampling an underlying transfer function. We will then move onto the question of optimality and optimal model reduction in this setting and answer this question using the system theoretical  $H_2$  (least-squares) error measure. If time allows, we will also investigate extensions to nonlinear and parametrized systems.