Structured non-linear hybrid model - ChE 230D

Prithvi Dake
Department of Chemical Engineering
University of California, Santa Barbara
Santa Barbara, CA 93106

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The project is specifically aimed at model indentification applied to chemical plants. Here, we show a simplified 'hybrid' modelling approach using neural networks to represent the difficult-to-model parts in the first-principles implementation (Kumar and Rawlings, 2023). We end the presentation with quantile regression to make the model selectively learn a certain quantile of the data which can then be used for uncertainty prediction.

TOC:

References

P. Kumar and J. B. Rawlings. Structured nonlinear process modeling using neural networks and application to economic optimization. *Comput. Chem. Eng.*, 177, 2023. doi: https://doi.org/10.1016/j.compchemeng.2023.108314.