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Improving astrophysical scaling relations with machine learning

Finding low-scatter relationships in properties of astrophysical systems is important to estimate their masses/distances. I will show how interpretable ML tools like symbolic regression can be used to expeditiously search for these low-scatter relations in abstract high-dimensional astrophysical datasets. I will present new scaling relations between properties of galaxy clusters that we obtained using ML. I will also highlight advantages of using interpretable ML tools instead of deep neural networks for particular astrophysical problems.

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