

05:00 -- 07:00 PM @ East Exhibition Hall B + C #31

Multimodal Model Agnostic Meta-Learning via Task-Aware Modulation



Risto Vuorio*



Shao-Hua Sun*

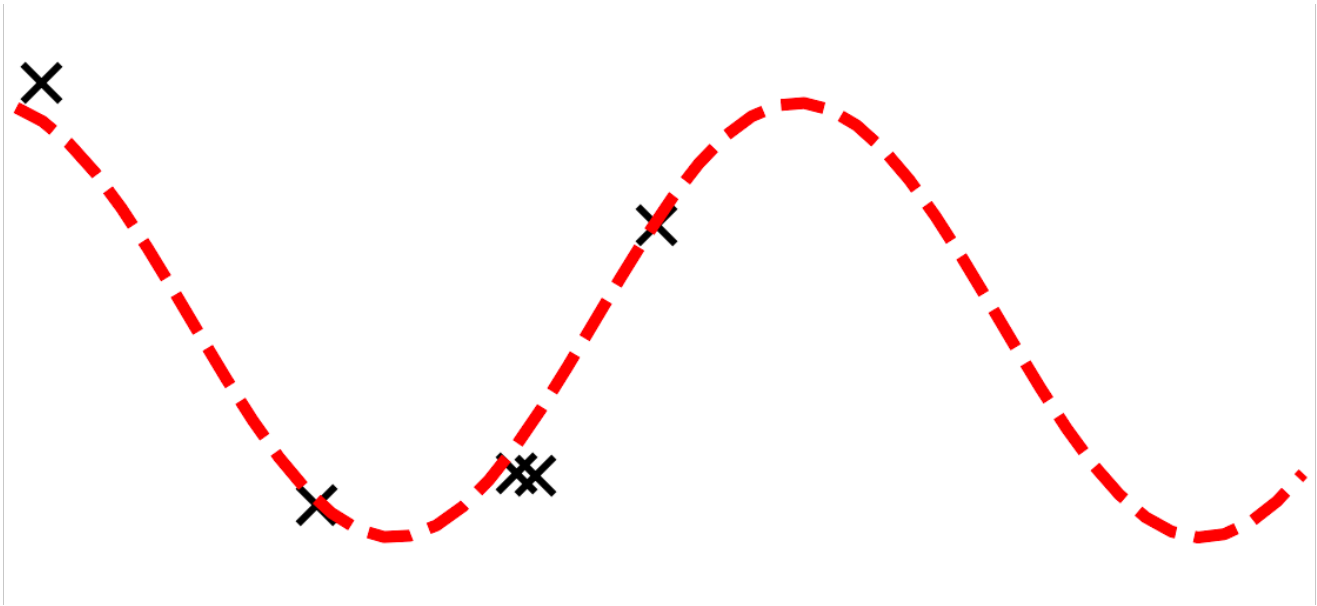


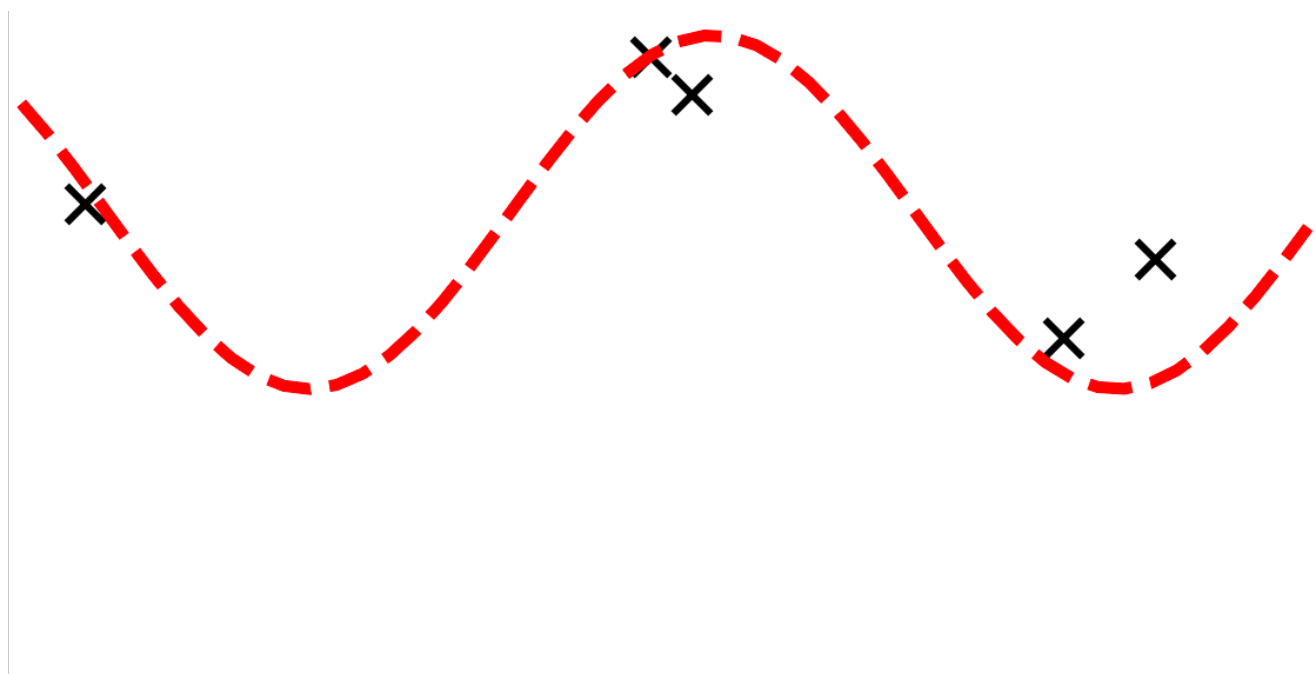
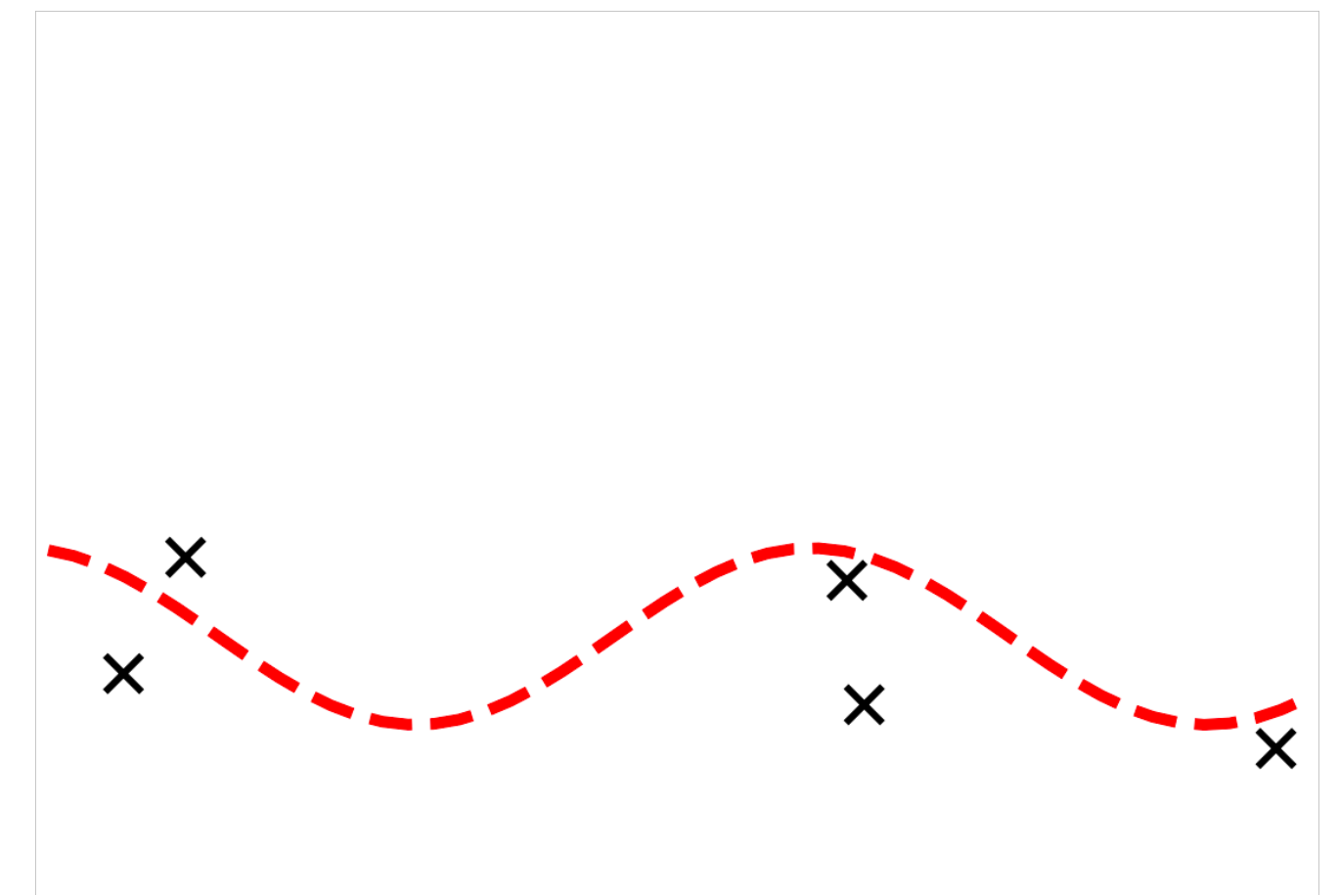
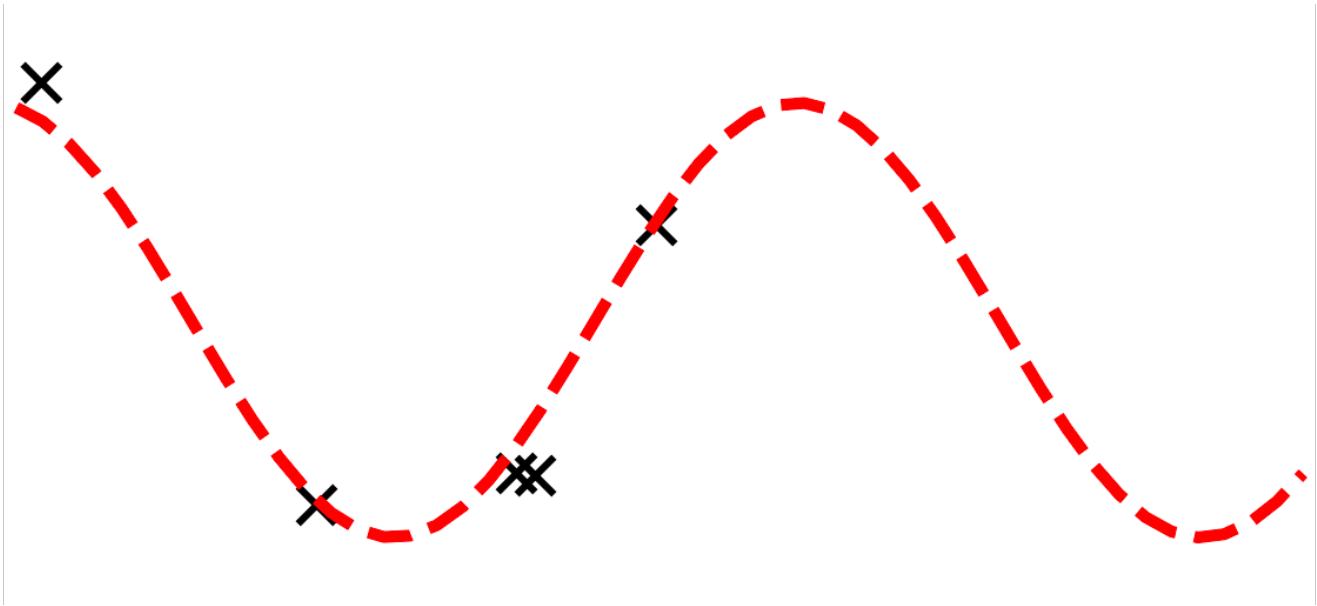
Hexiang Hu

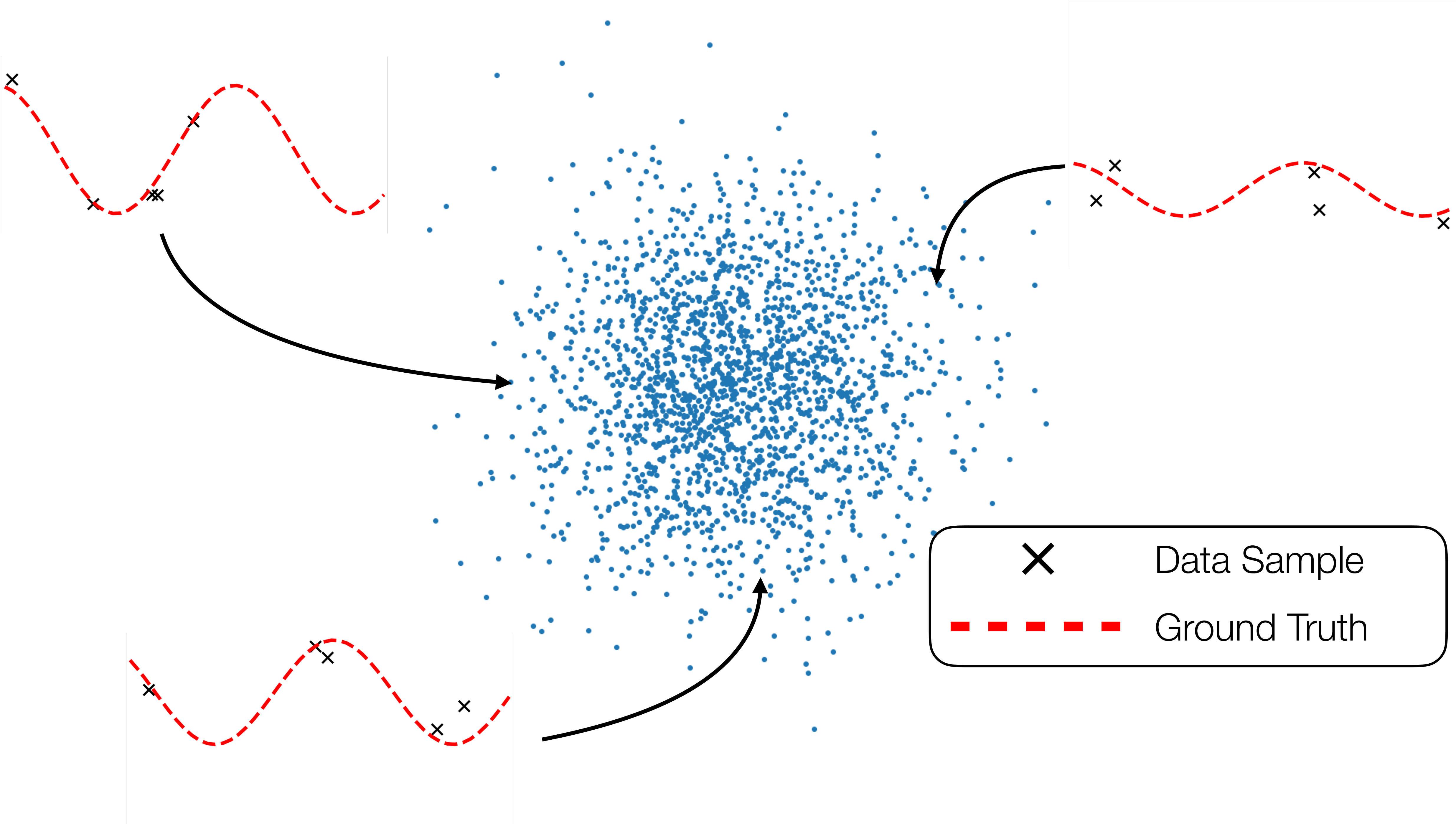


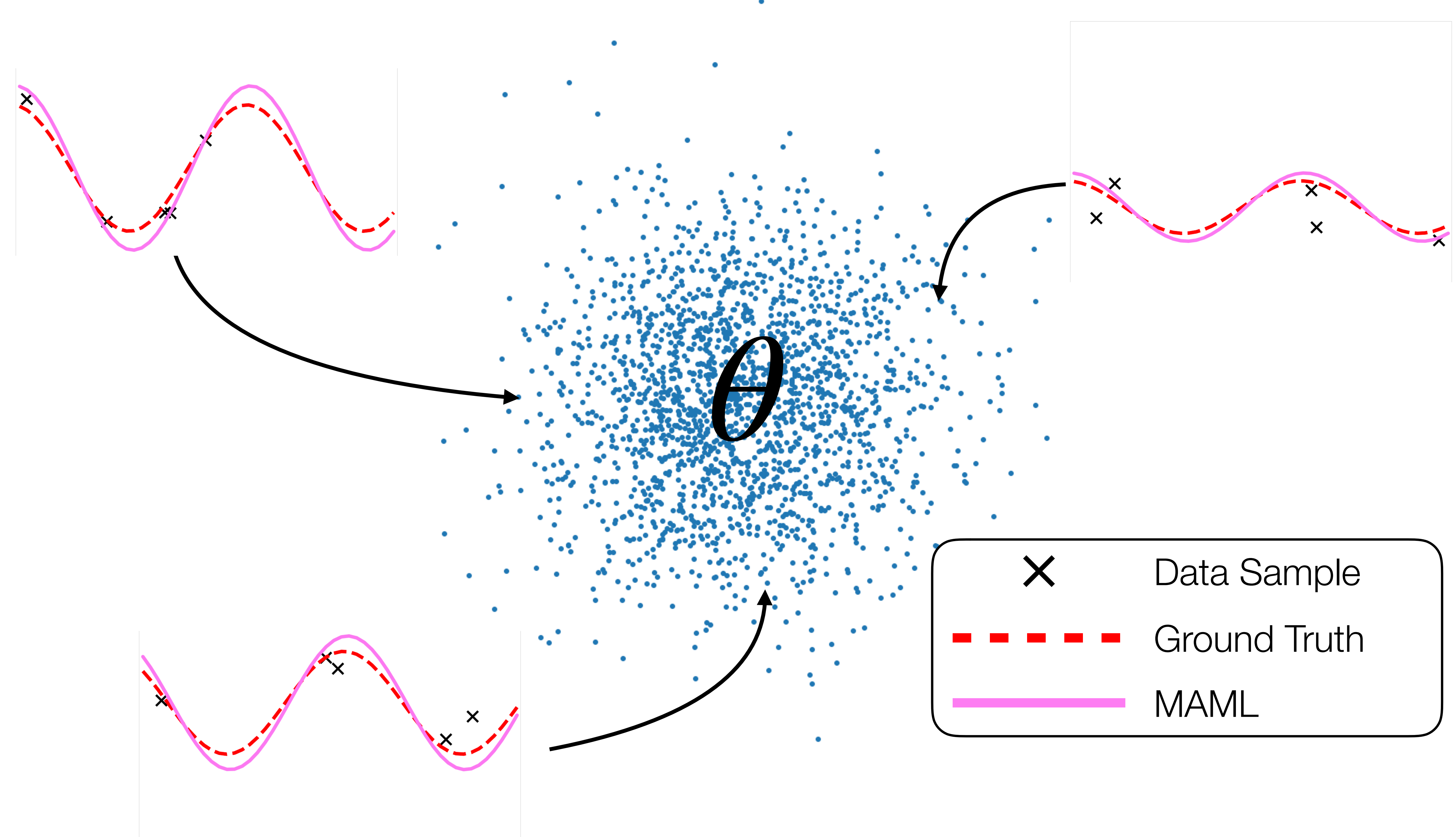
Joseph J. Lim



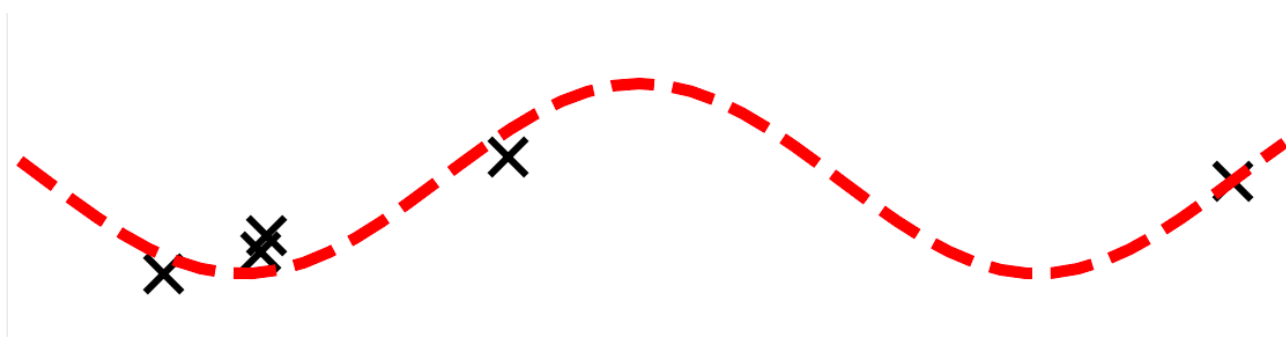




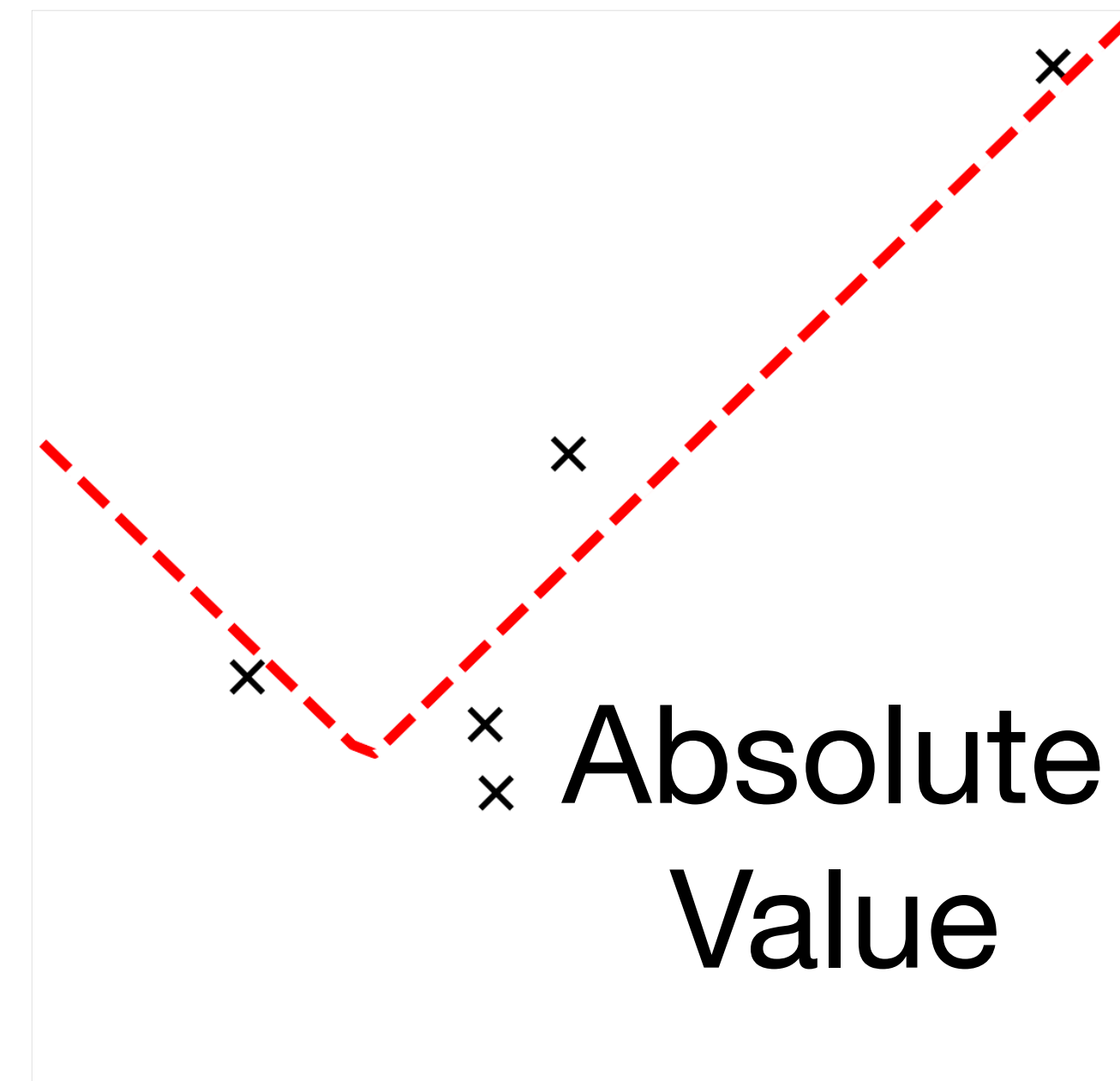




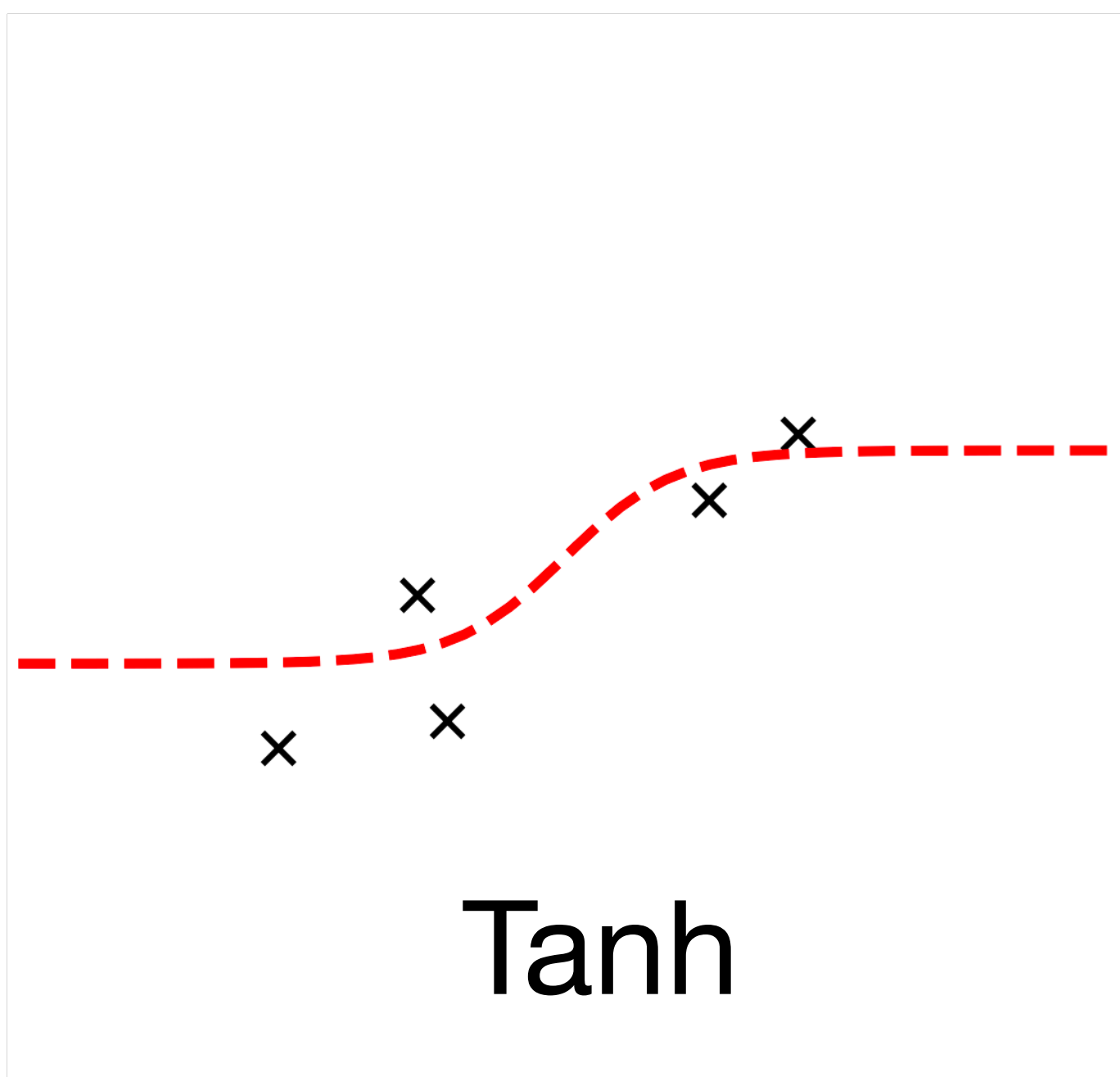
Sinusoid



Absolute Value



Tanh



x

Data Sample

Ground Truth

Sinusoid

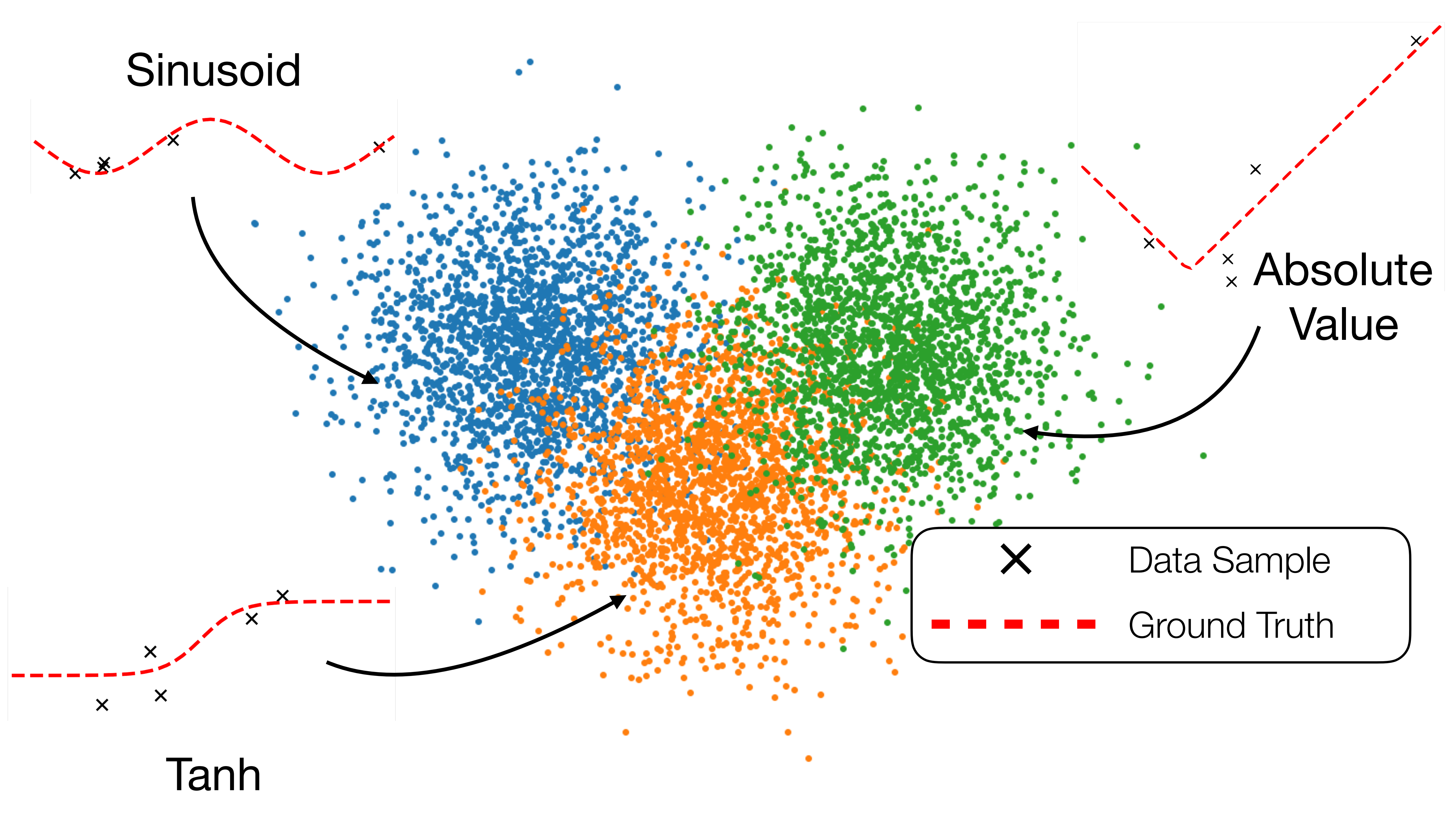
Absolute
Value

Tanh

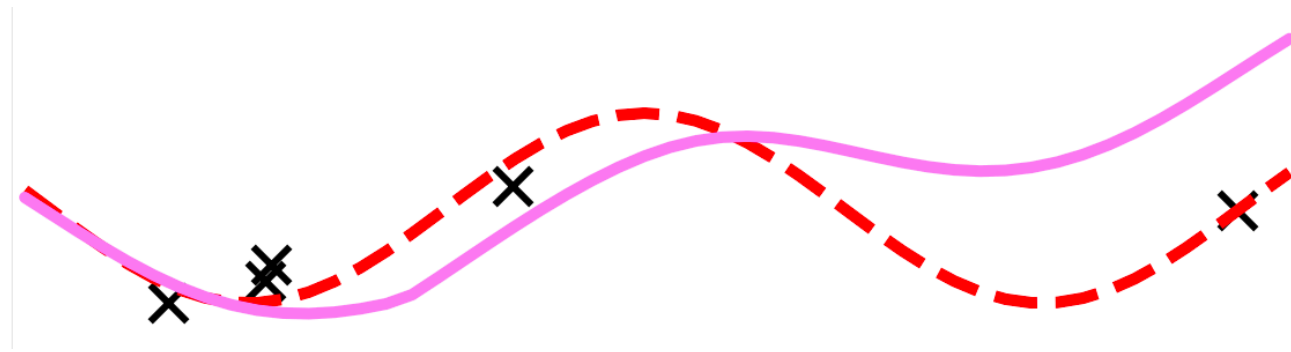
×

Data Sample

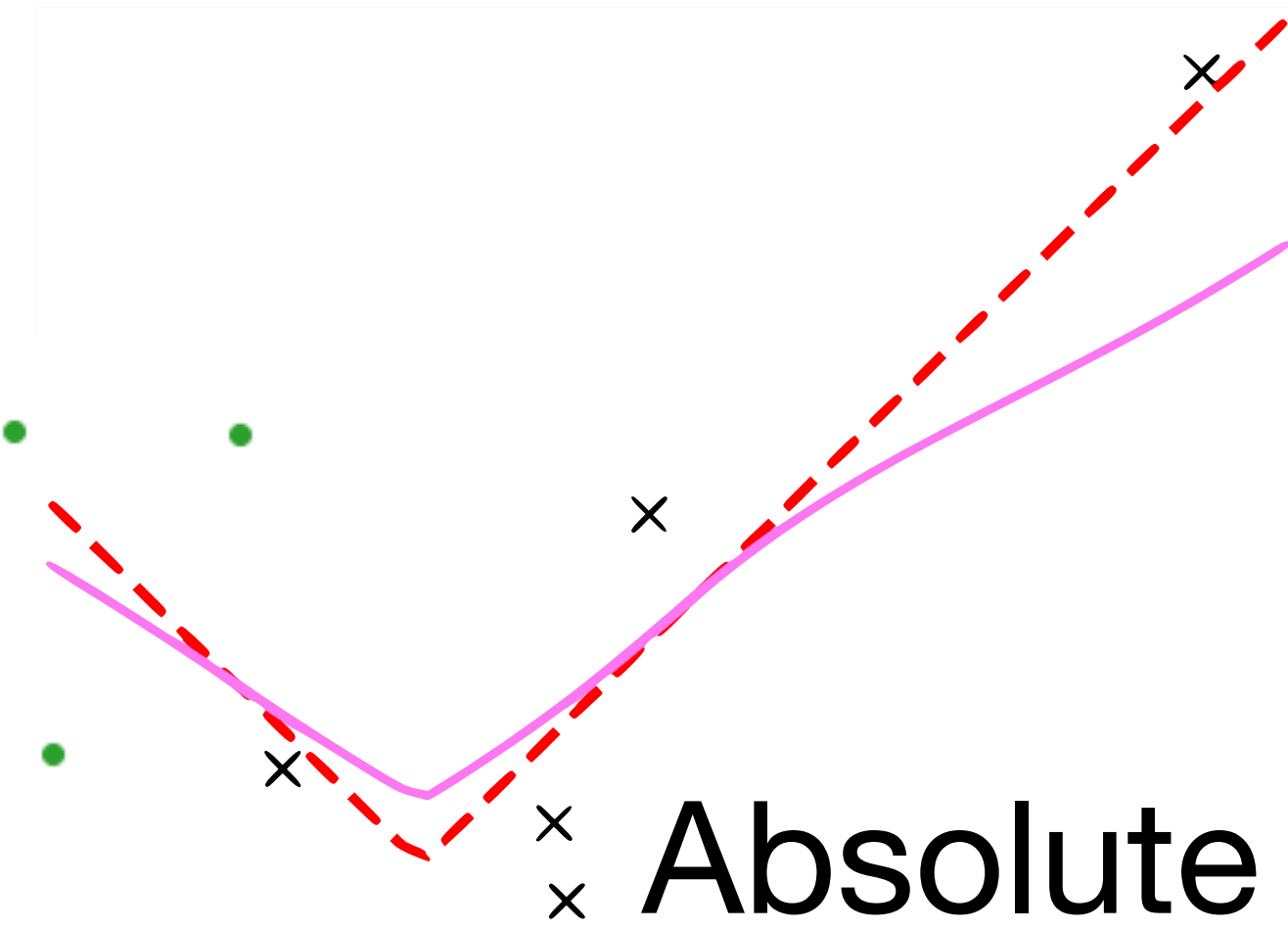
Ground Truth



Sinusoid

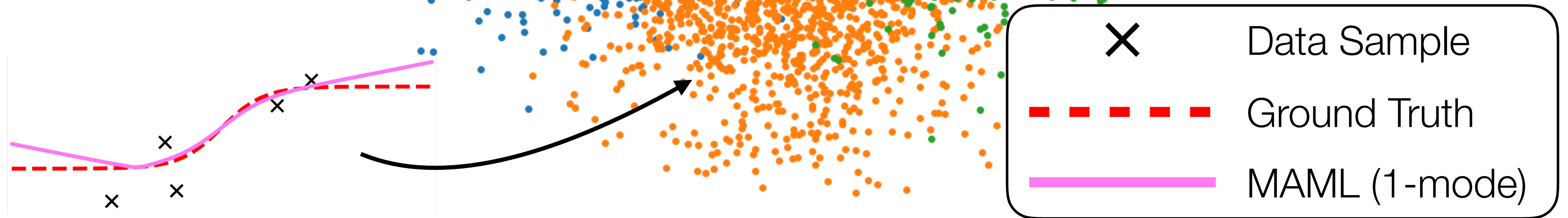


Absolute
Value

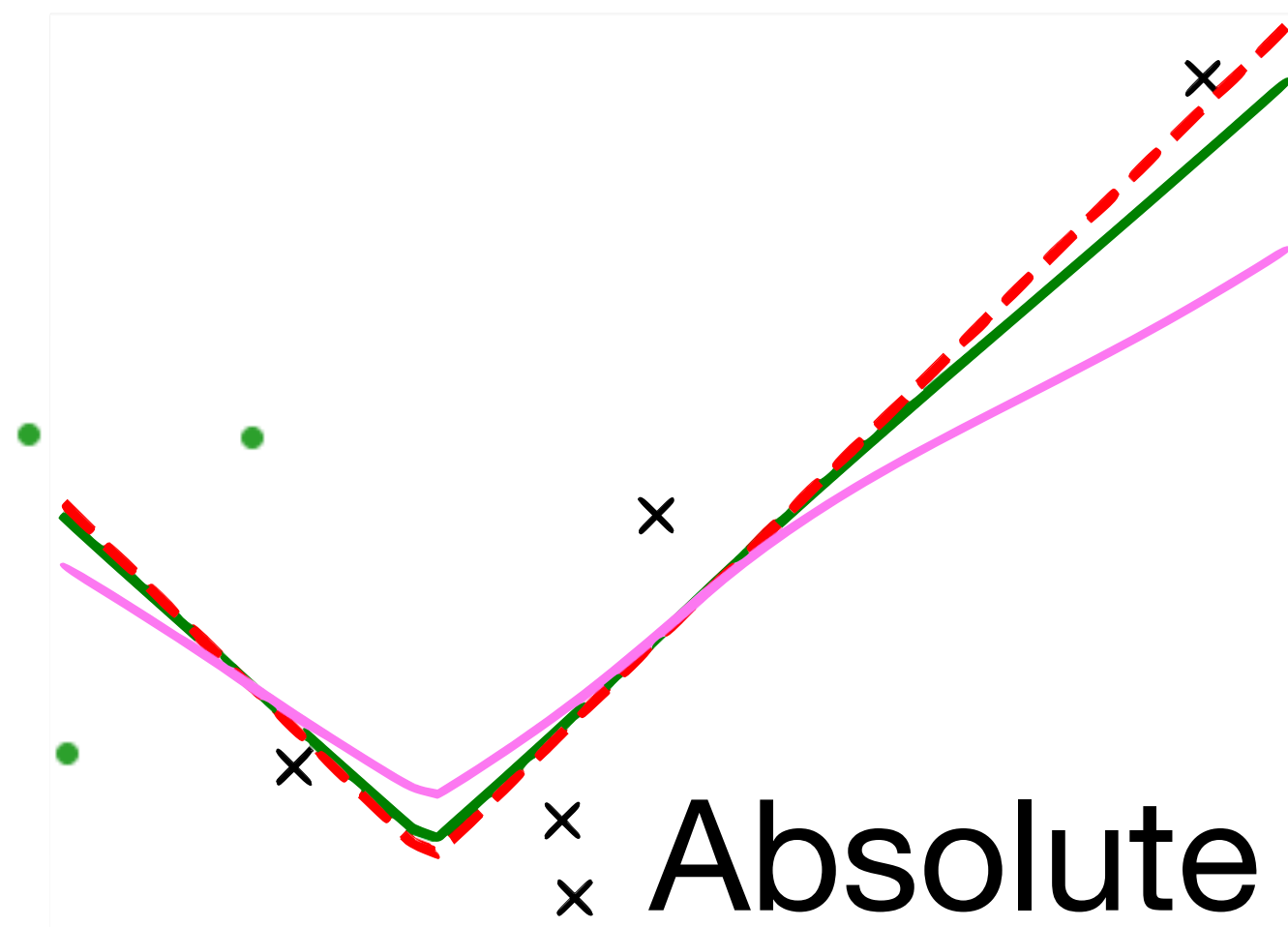
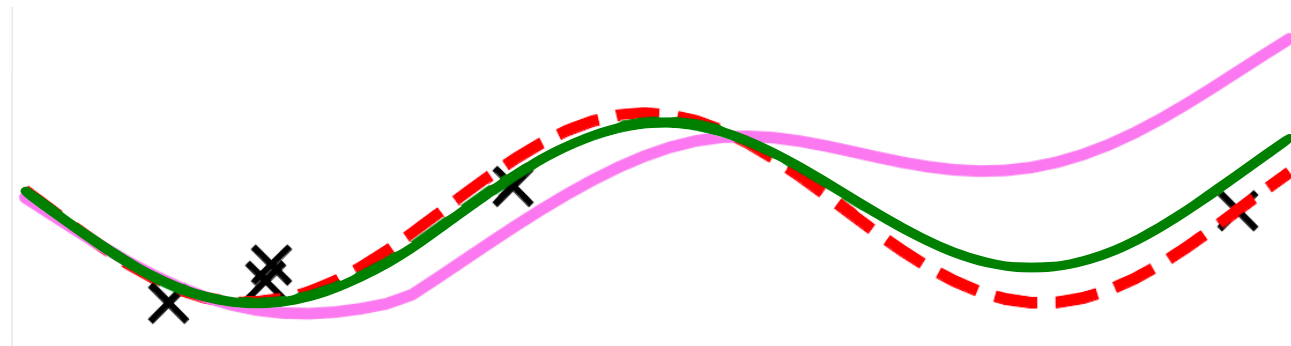


θ

Tanh



Sinusoid



Absolute
Value

θ_1

θ_2

θ_3

x

Data Sample

Ground Truth

Ground Truth

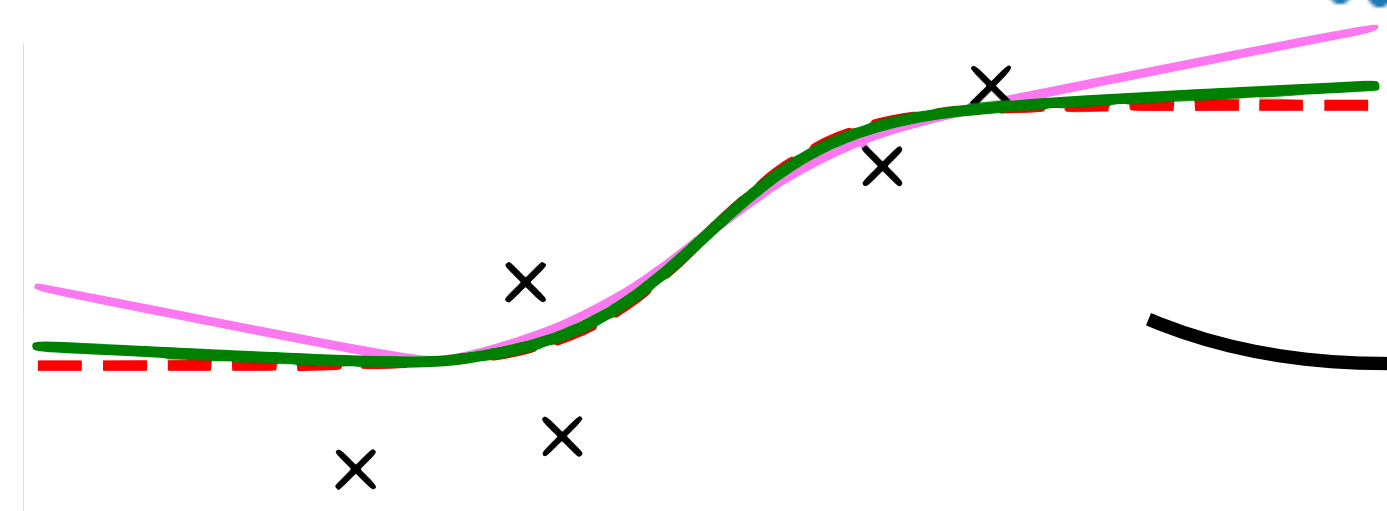
MAML (1-mode)

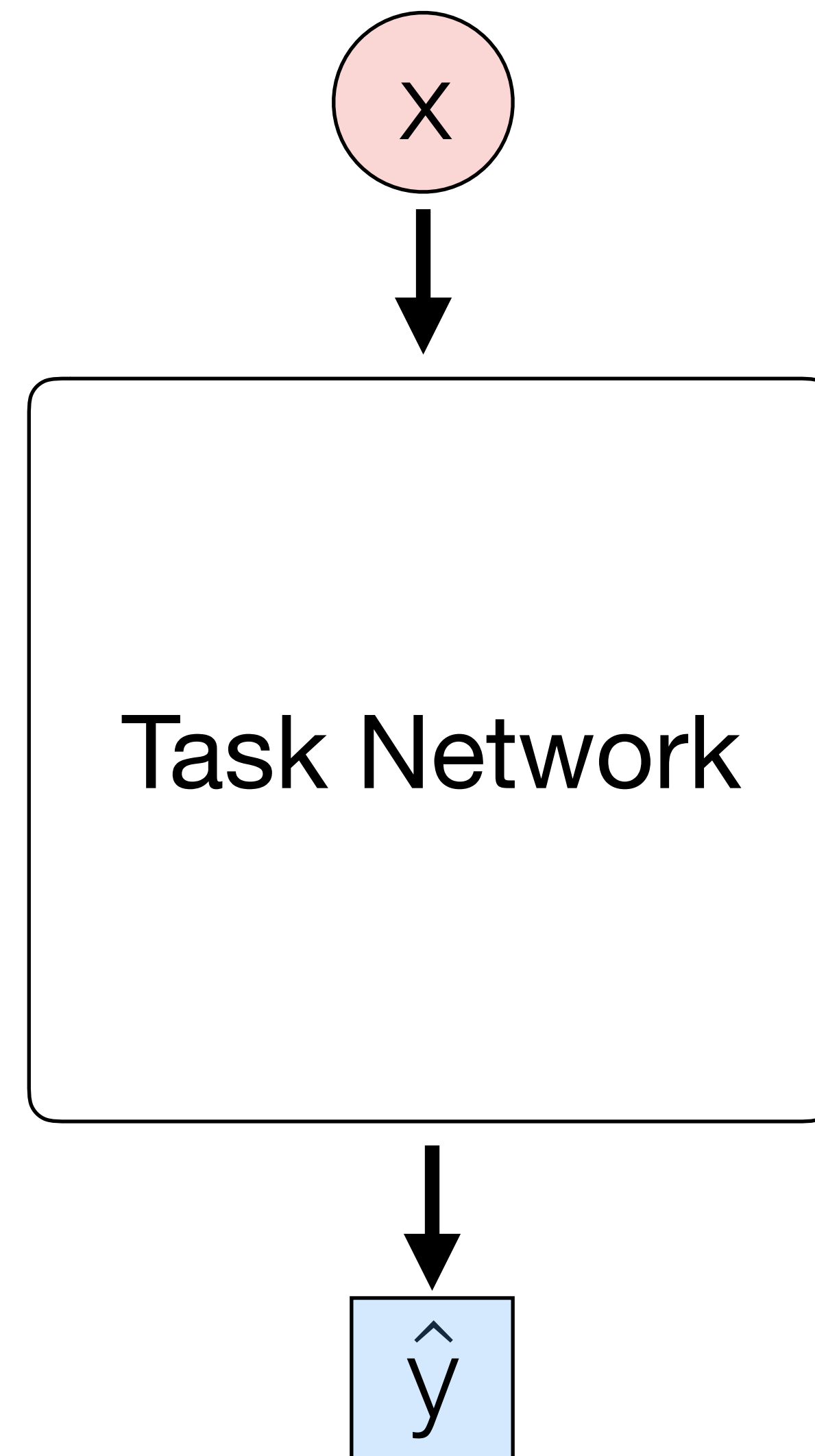
MAML (1-mode)

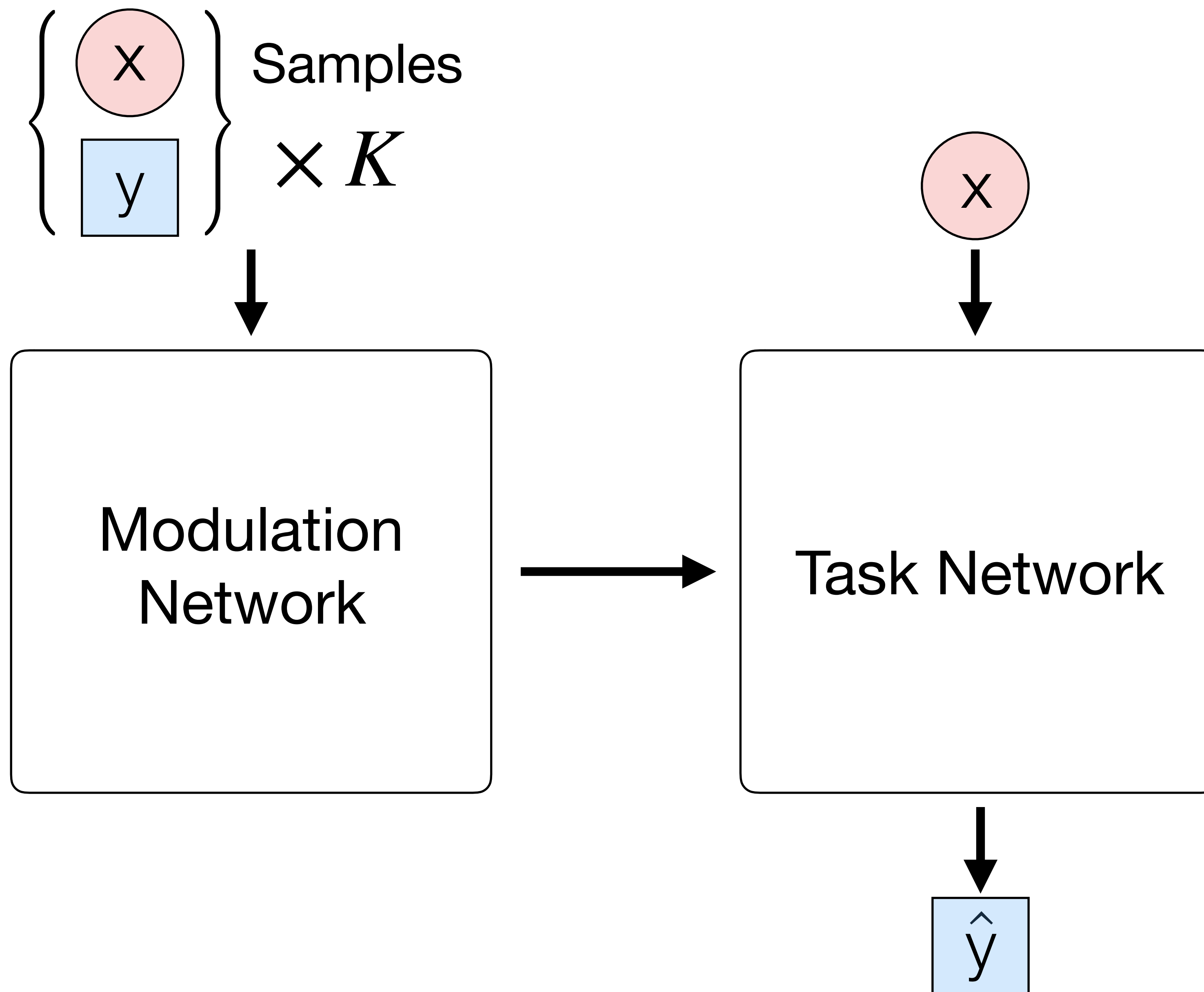
MAML (3-mode)

MAML (3-mode)

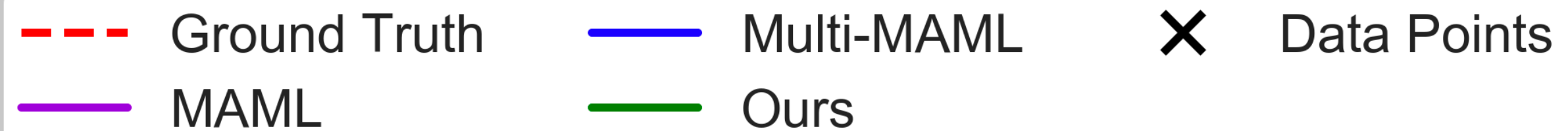
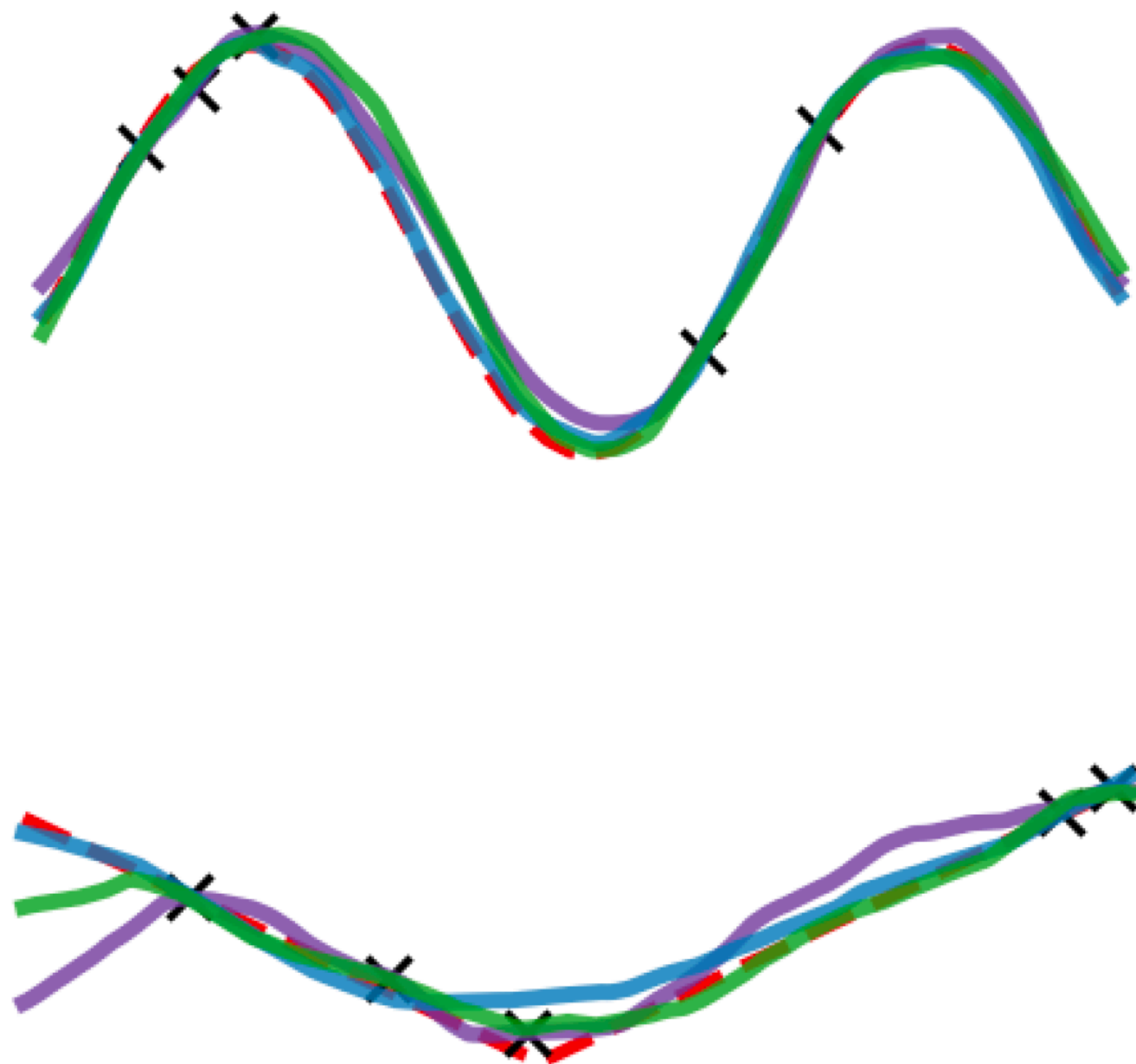
Tanh



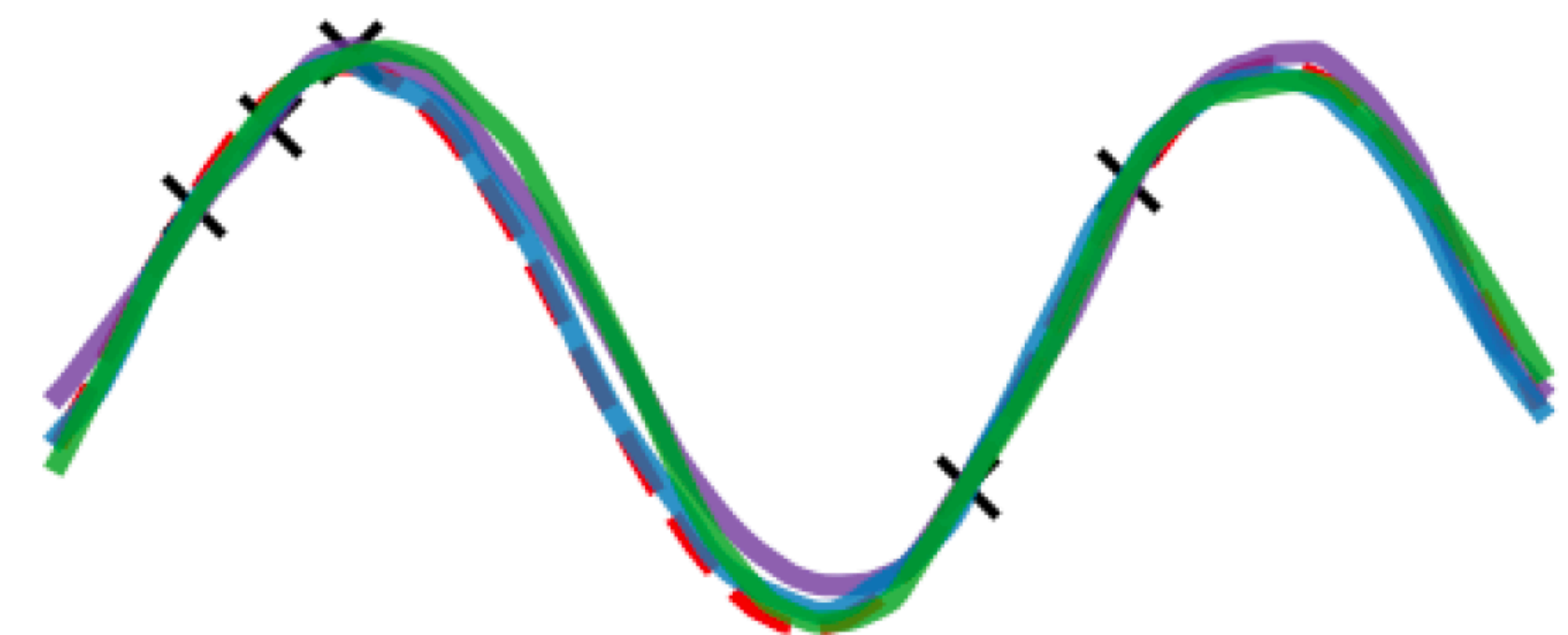




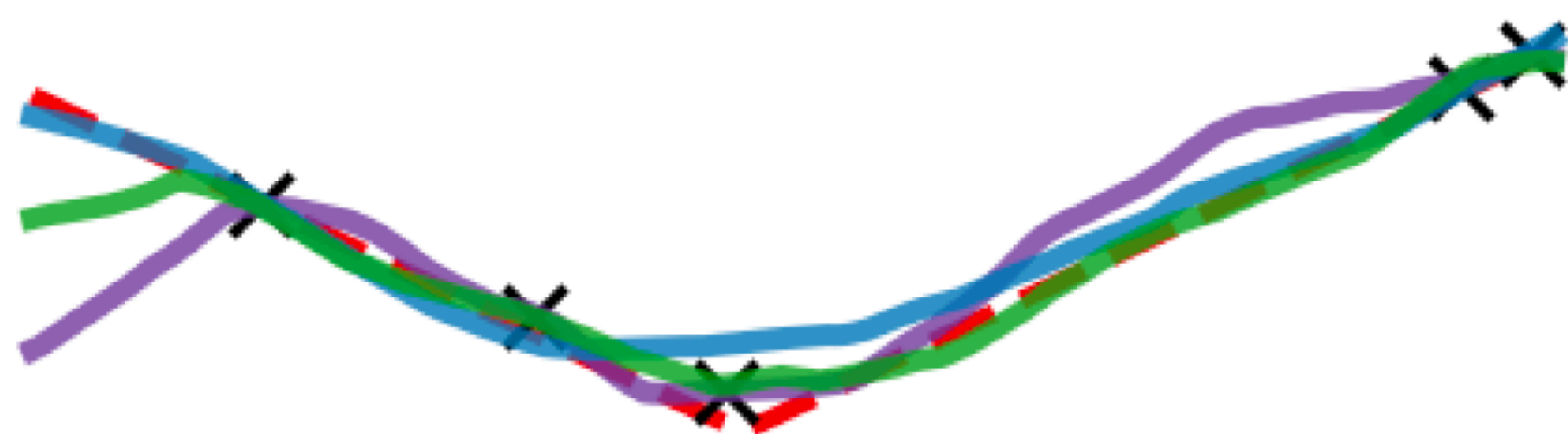
Evaluations: Regression



Evaluations: Regression



MAML	1.668
Ours	0.868

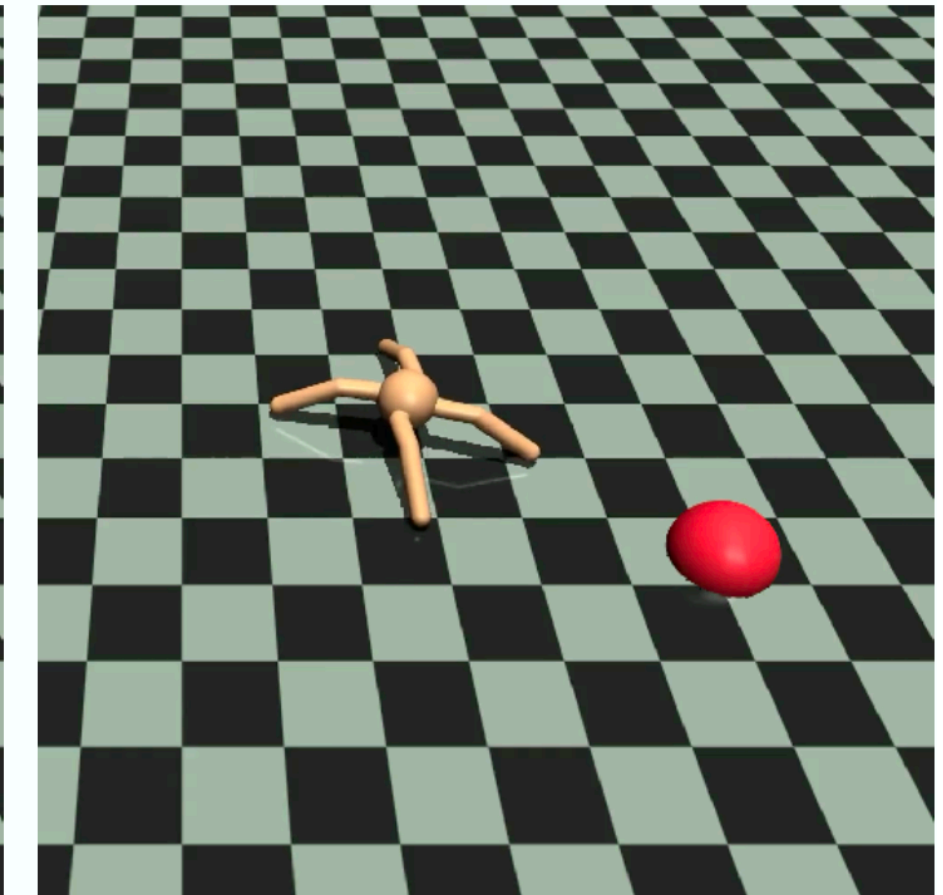
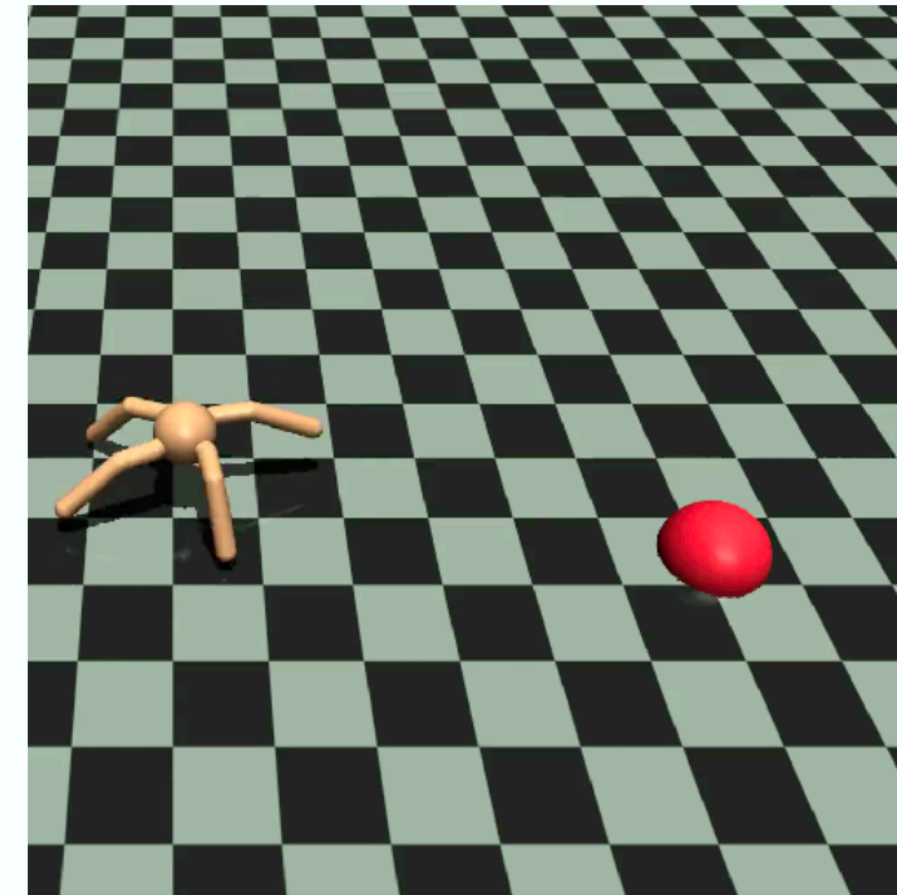
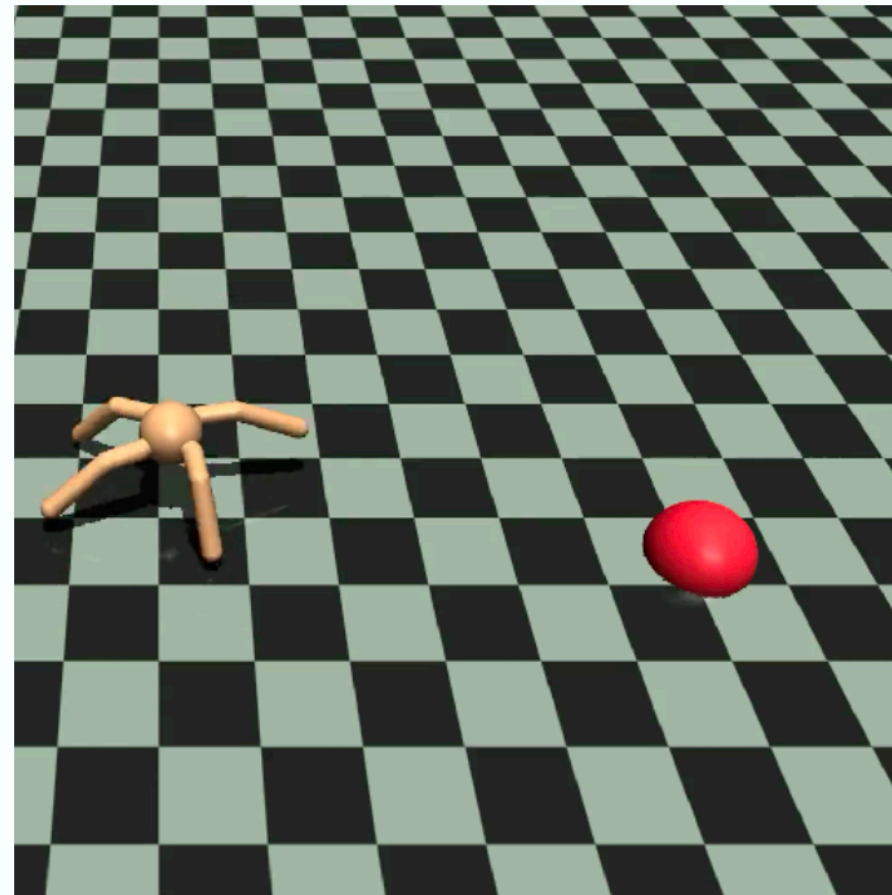


5-Mode Regression
MSE

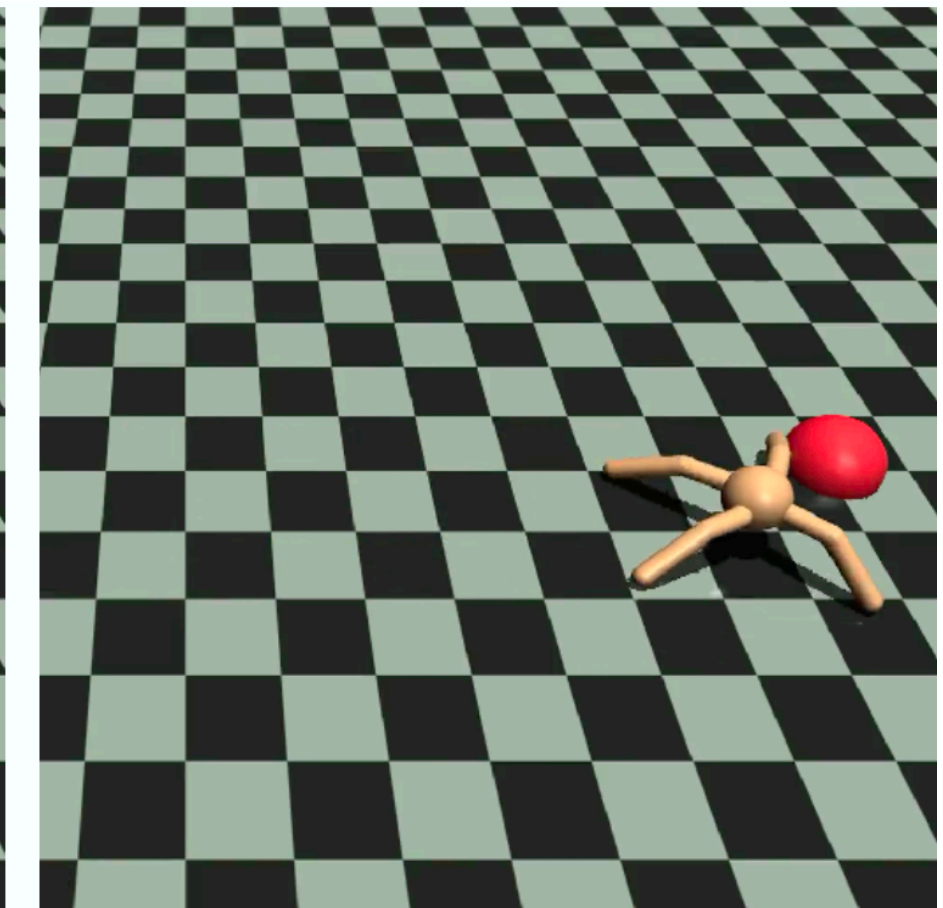
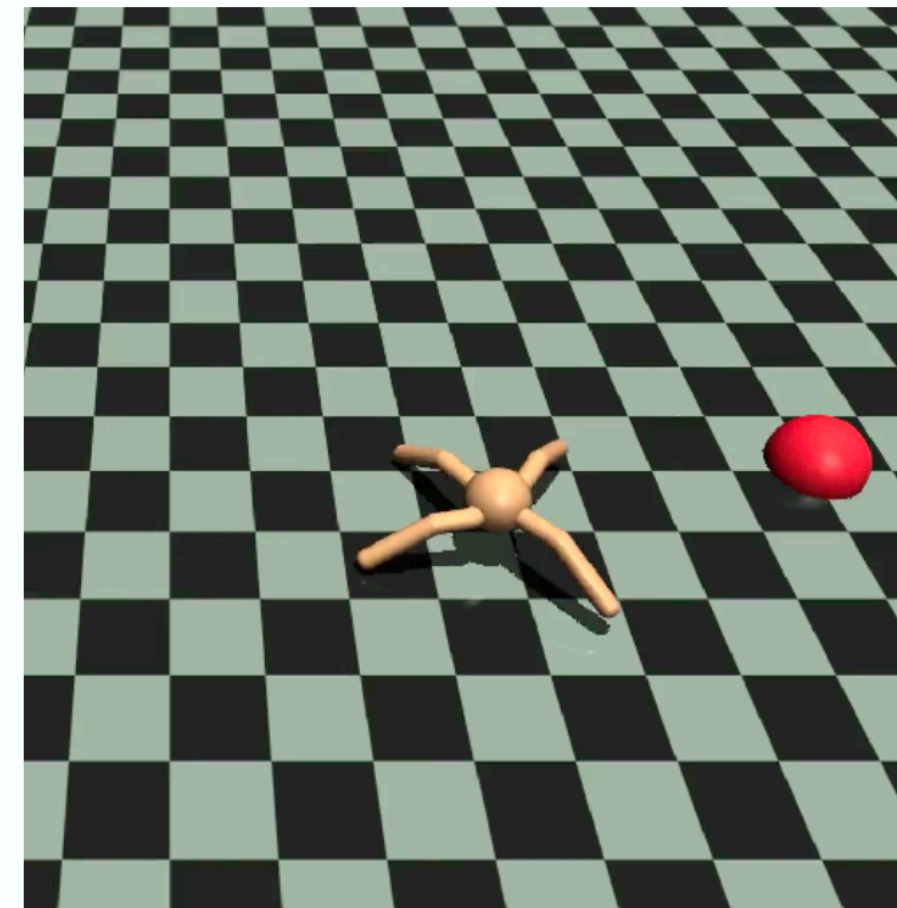
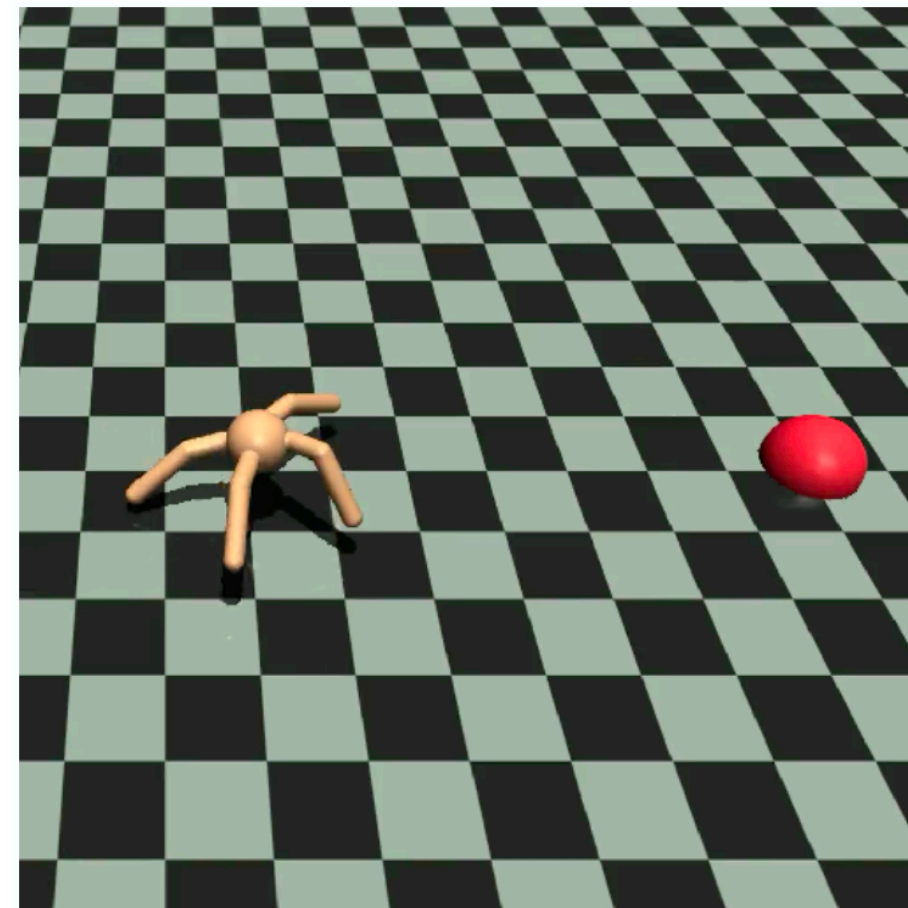


Evaluations: Reinforcement Learning

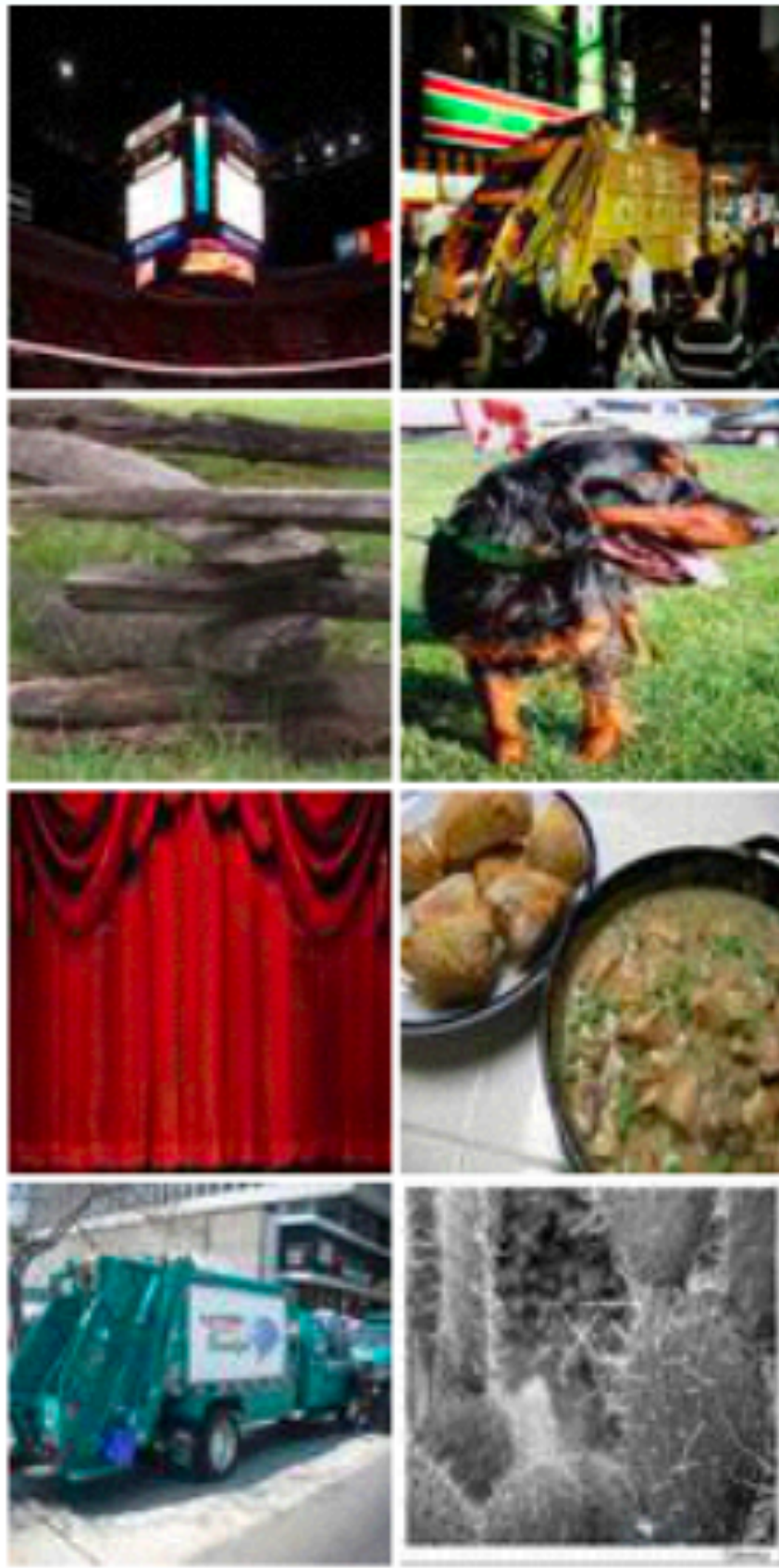
ProMP



Ours



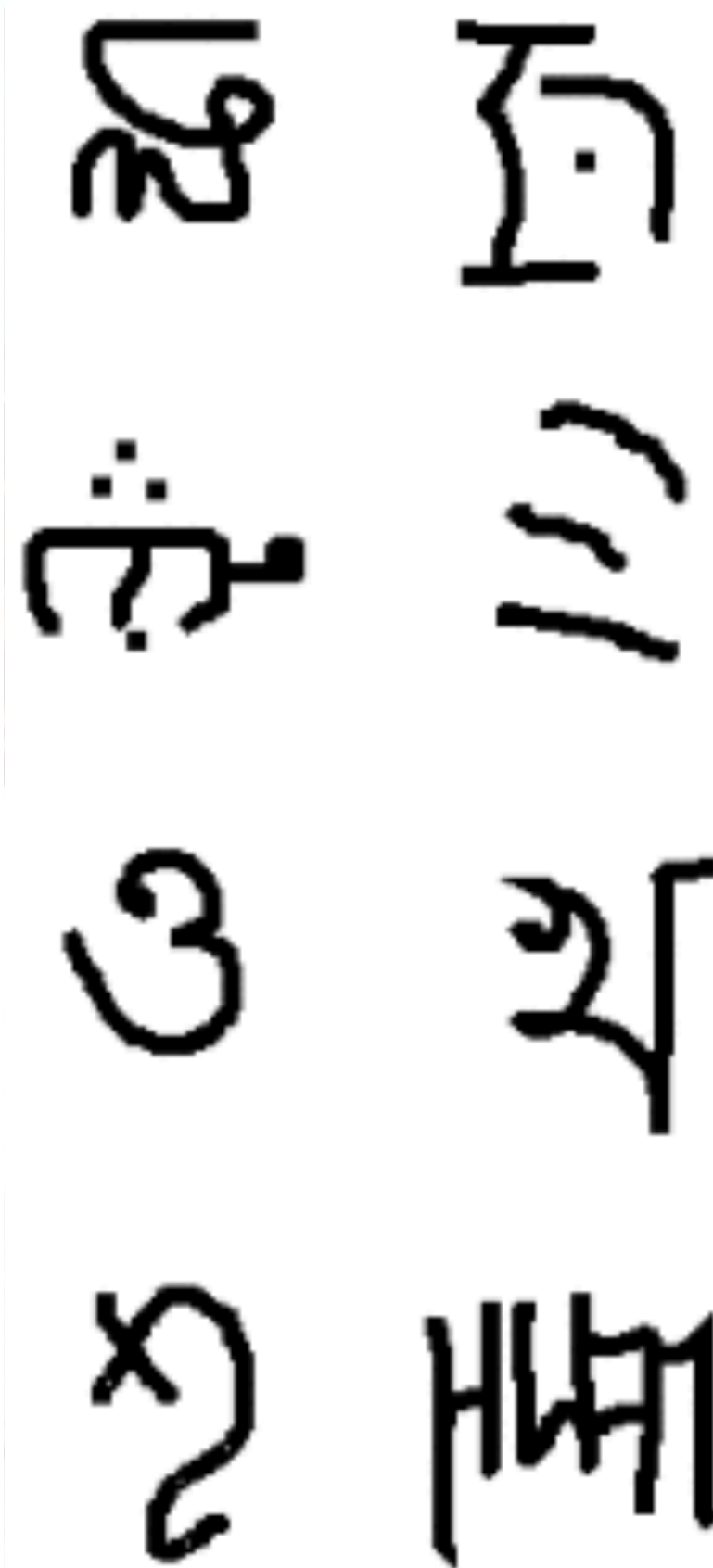
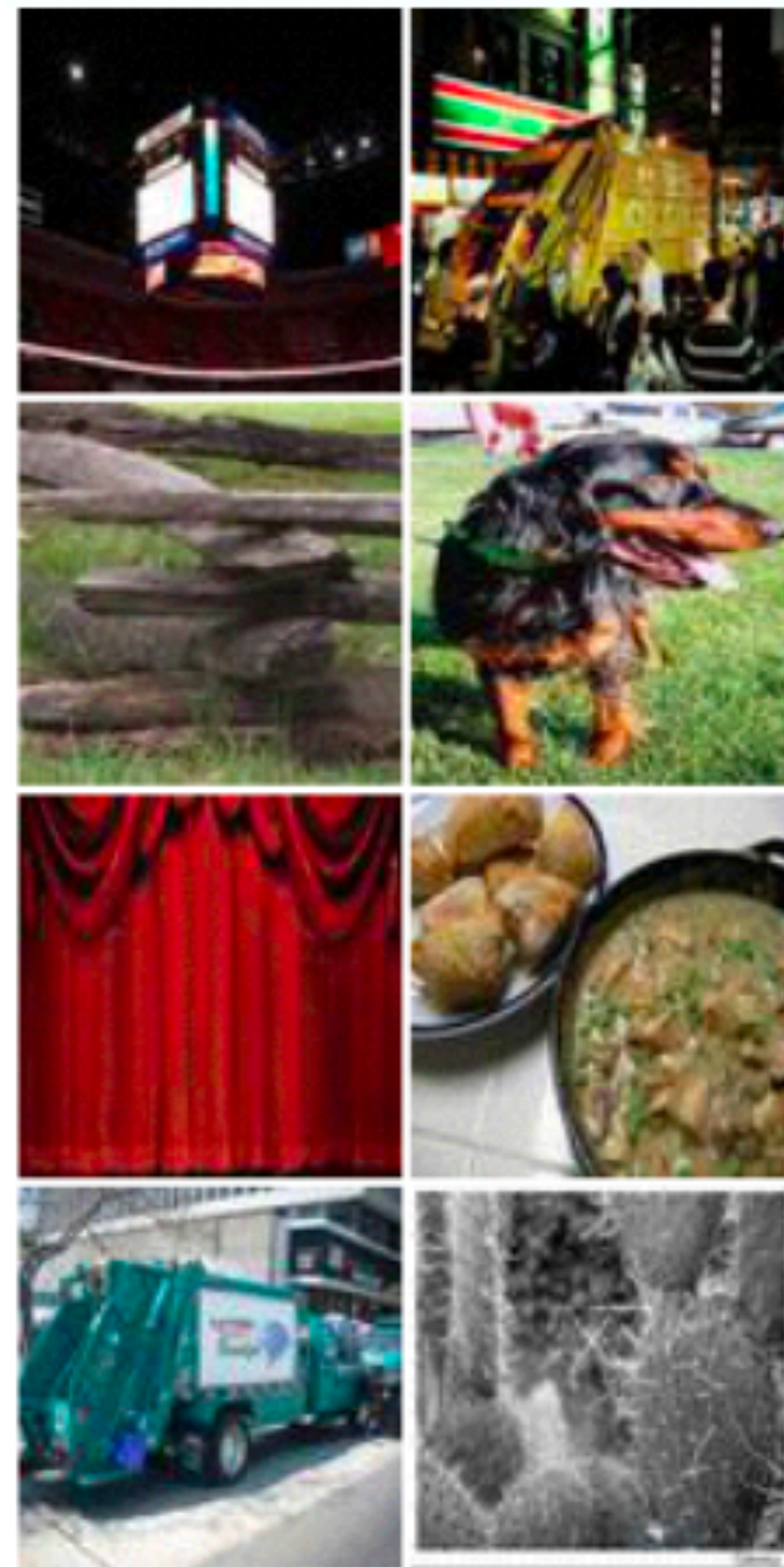
Evaluations: Classification



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Evaluations: Classification



MAML	54.41%
Ours	60.83%

5-Way, 5-Shot 5-Mode
Classification