

Memorization capacity and robustness of neural networks

PhD defense layman's talk

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Artificial Intelligence

Memorization capacity and robustness of neural networks

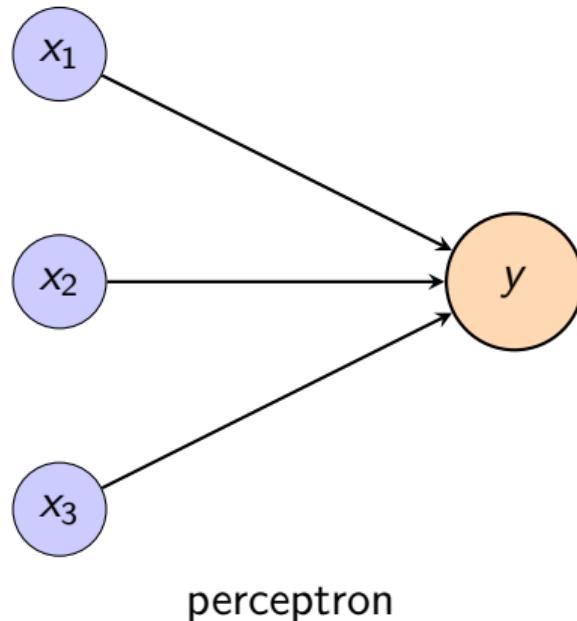
Artificial Intelligence → Machine Learning

Memorization capacity and robustness of neural networks

Artificial Intelligence → Machine Learning → Deep Learning

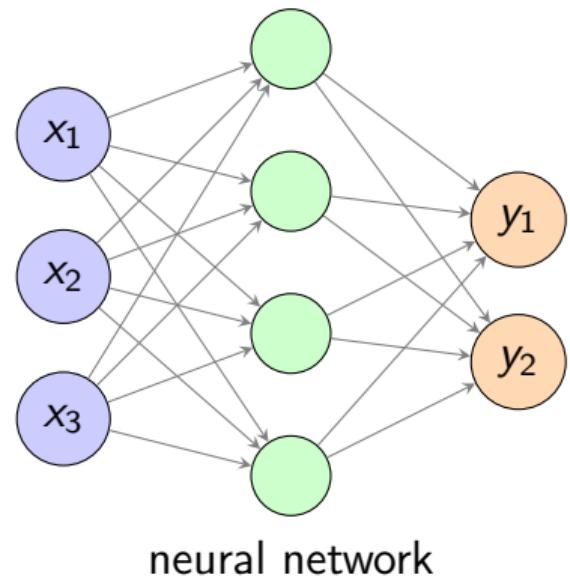
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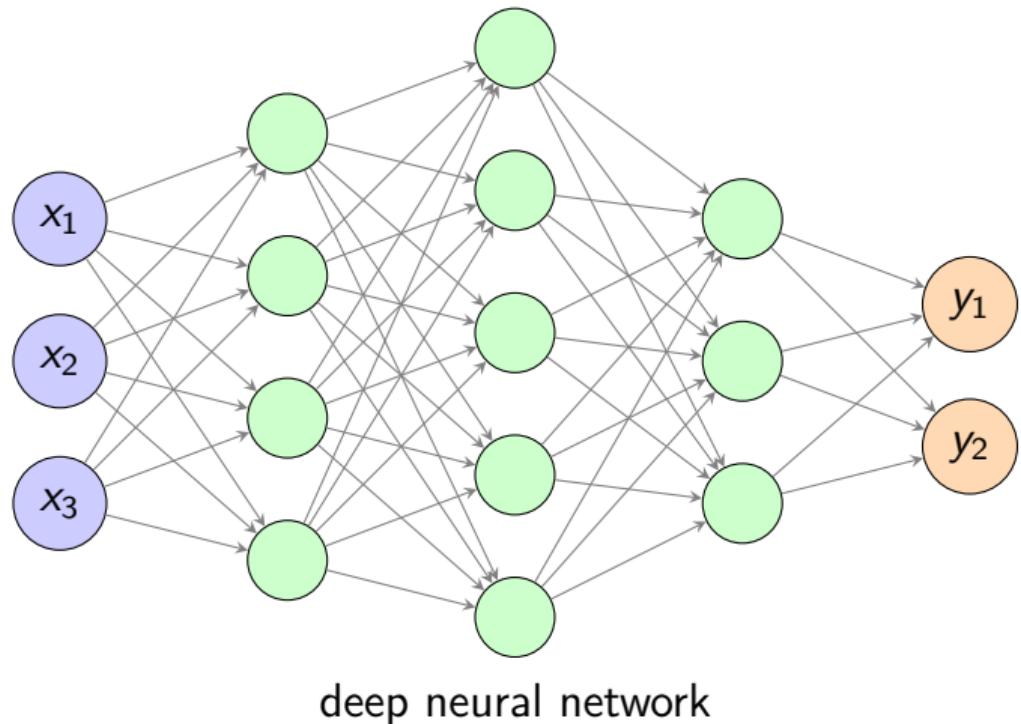
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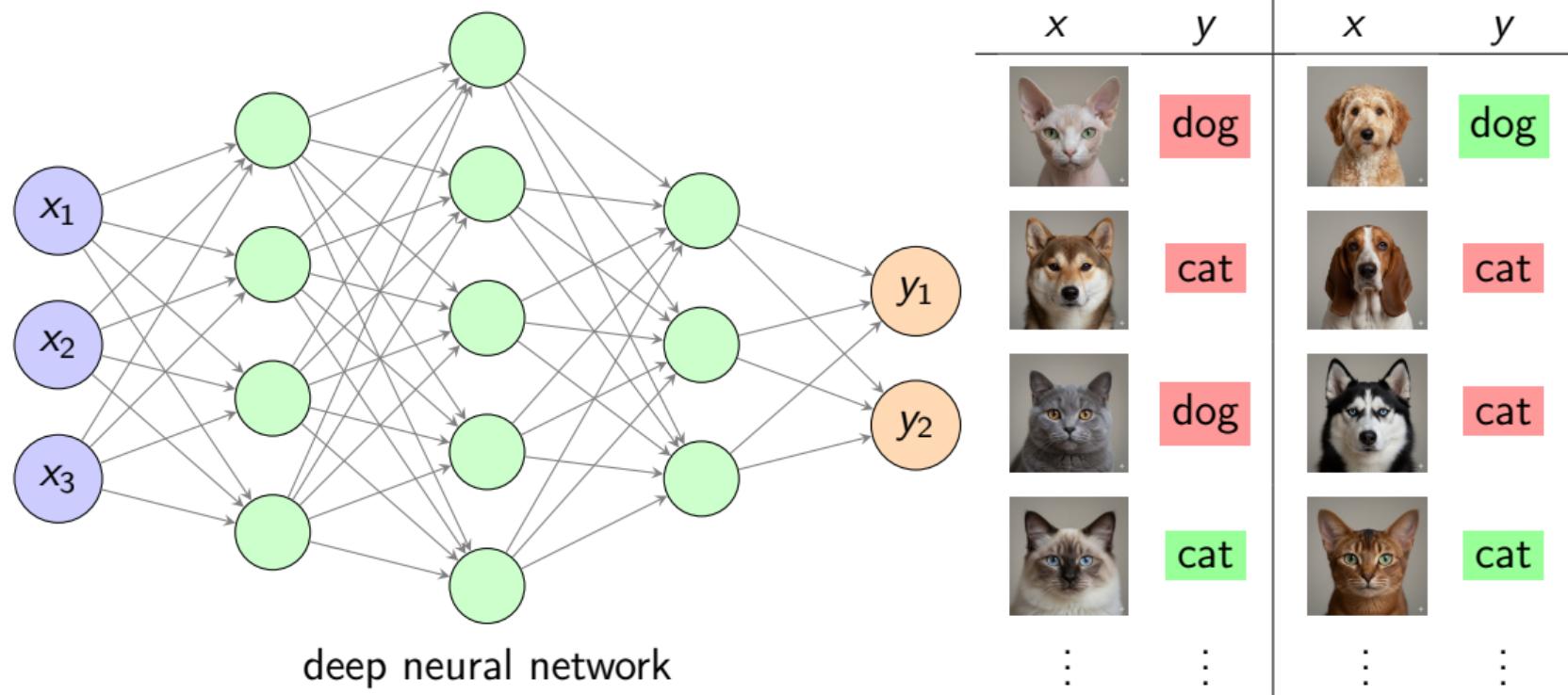
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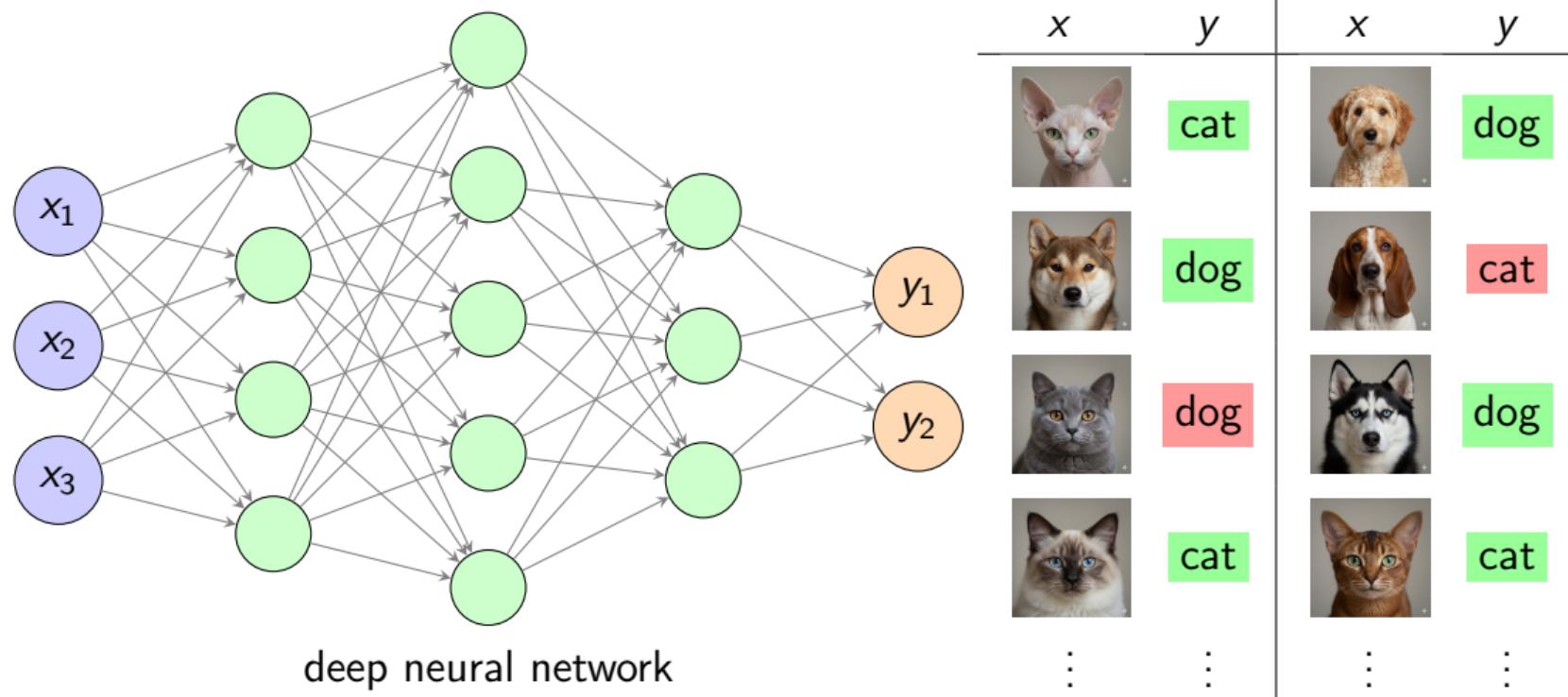
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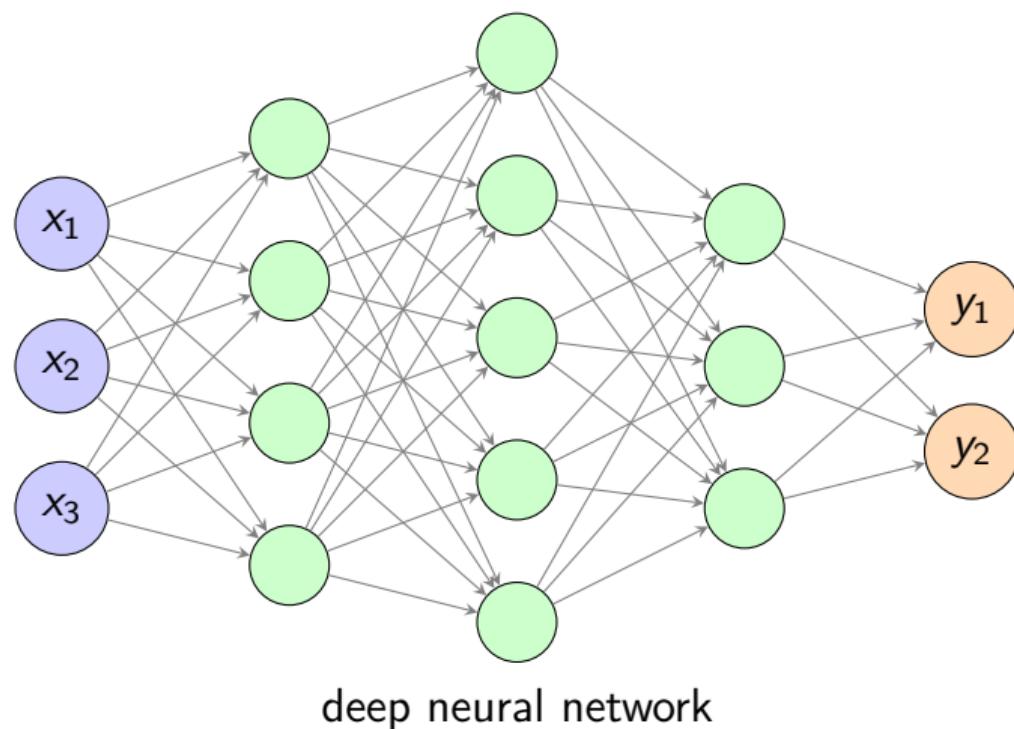
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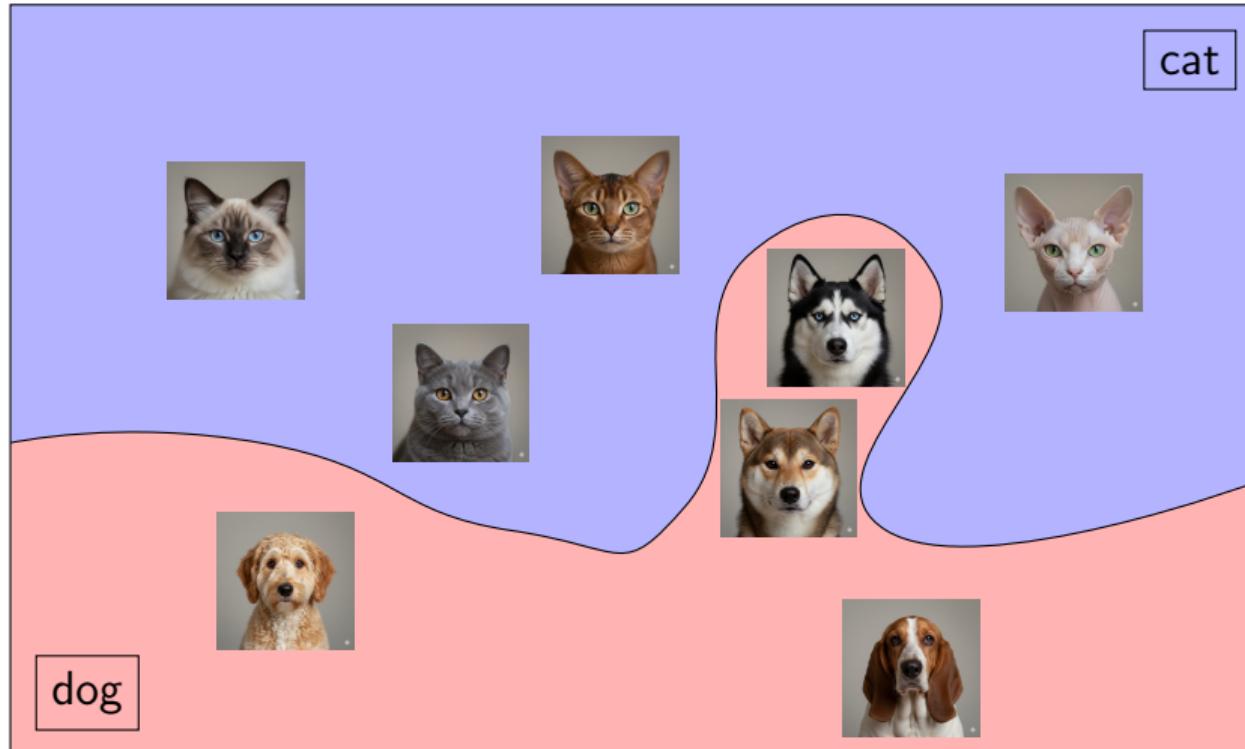
Artificial Intelligence → Machine Learning → Deep Learning



x	y	x	y
	cat		dog
	dog		dog
	dog		cat
	cat		dog
	cat		cat
⋮	⋮	⋮	⋮

Memorization capacity and robustness of neural networks

How large does a neural network need to be to memorize given examples?



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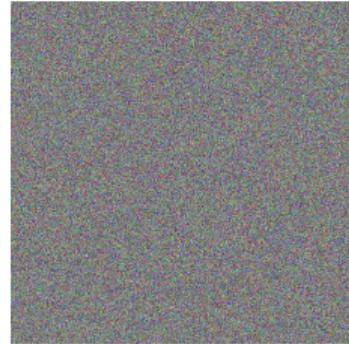


cat

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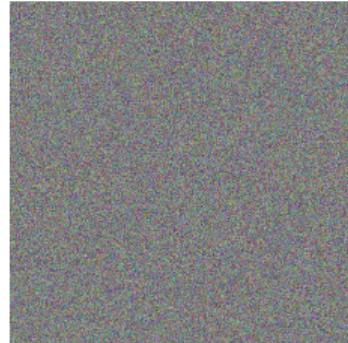


$+ 0.01 \times$



cat

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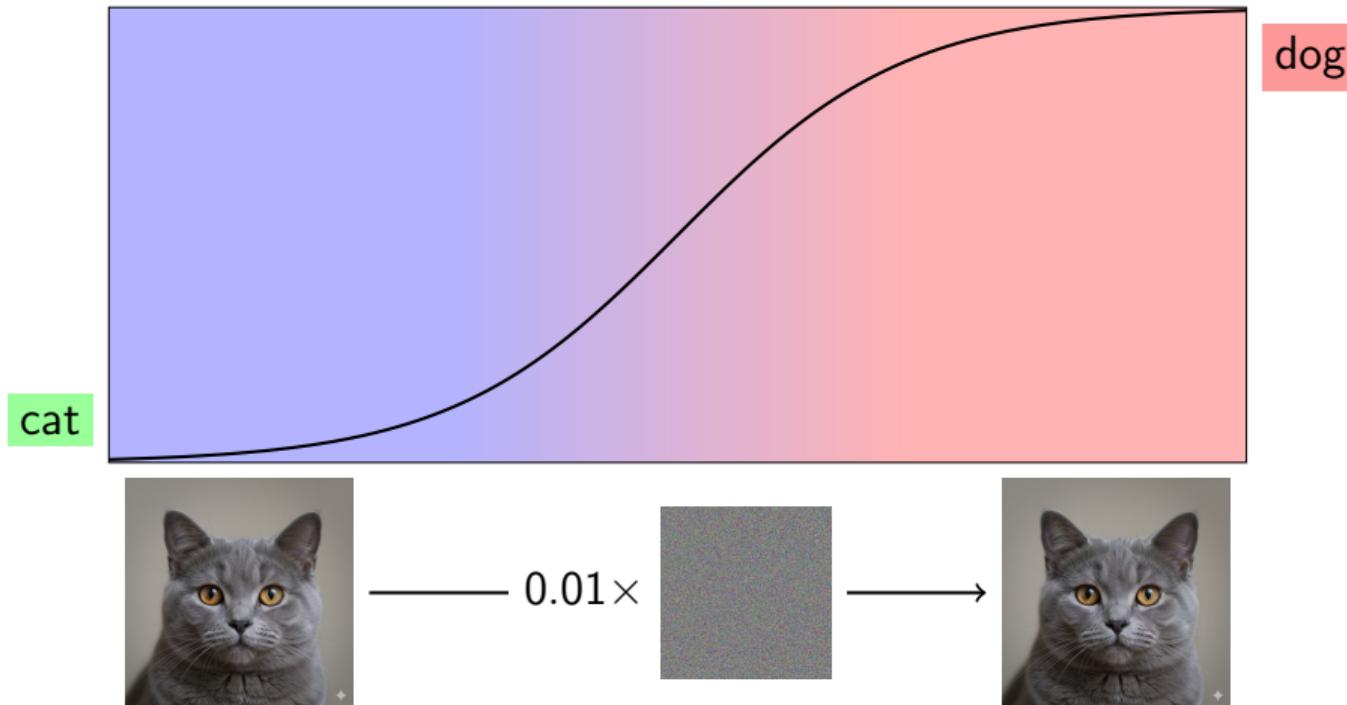
 $+ 0.01 \times$  $=$ 

cat

dog

Memorization capacity and **robustness** of neural networks

How sensitive are neural networks to small changes in their inputs?



Thank you!