Foundations of Deep Learning

ALF

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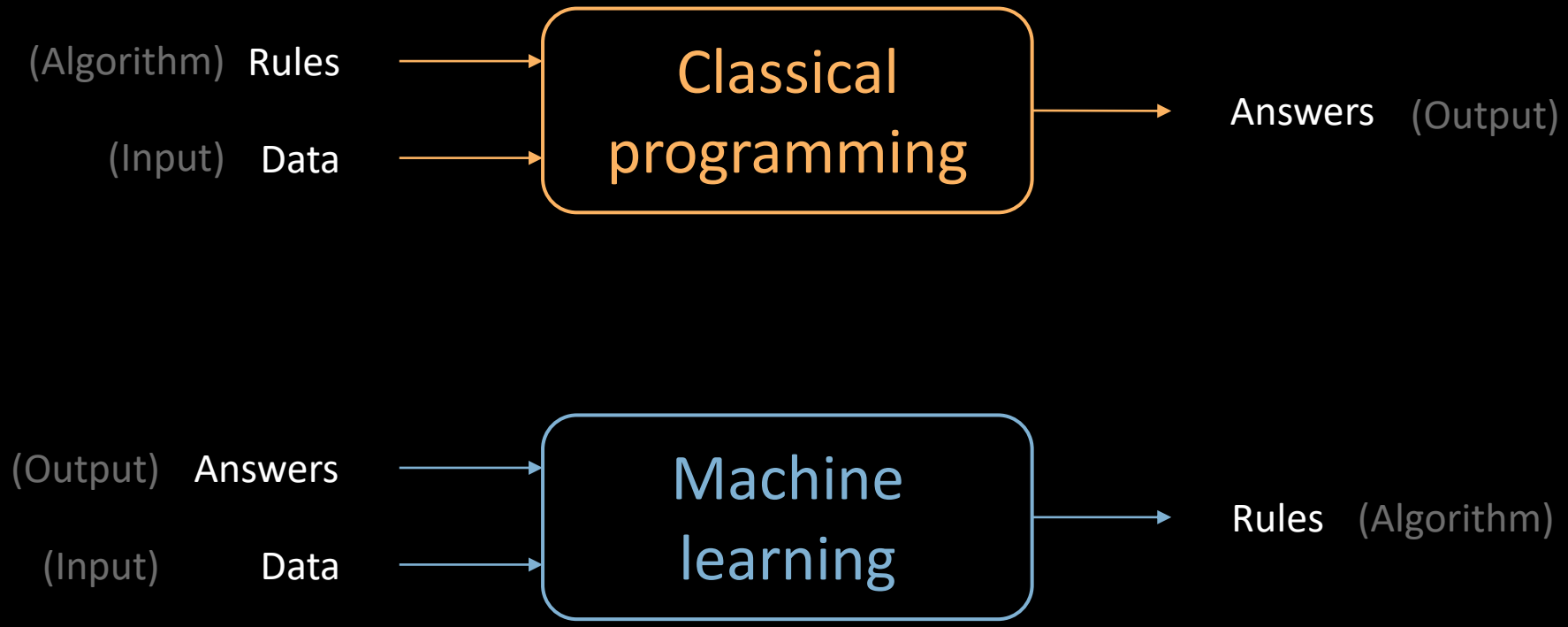
Taxonomy of ML

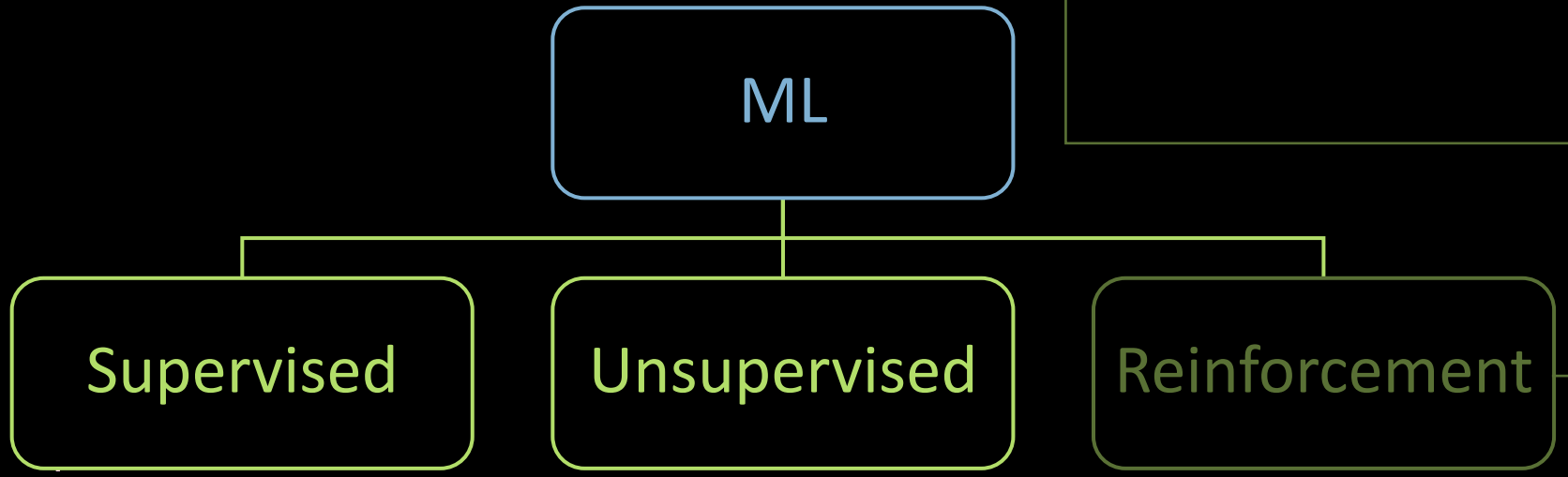
Learning paradigms and algorithms

Machine learning (ML)



ML paradigms taxonomy

- Non-differentiable ⇒ trial and error
- Differentiable ⇒ supervised RNN



y

Correct output

x Input

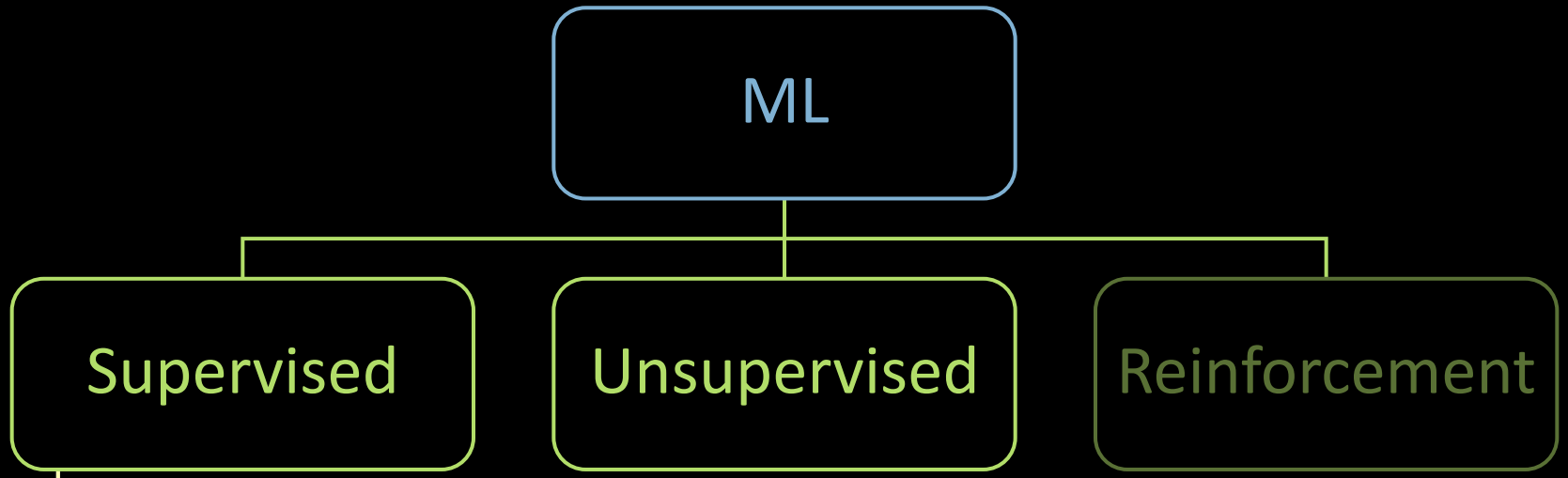
Predicted output $\hat{y}$

x Input

$\hat{x}$

Predicted input

ML paradigms taxonomy

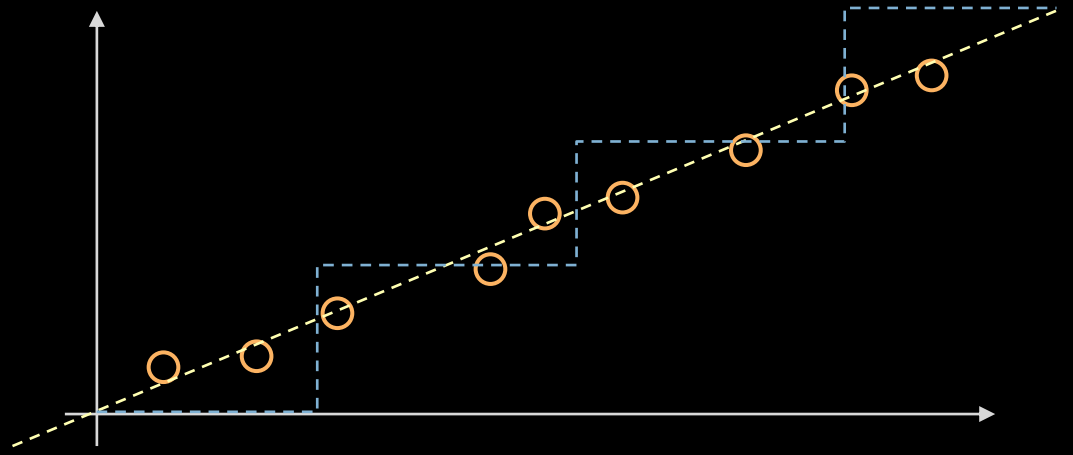


$y \in \mathbb{R}$

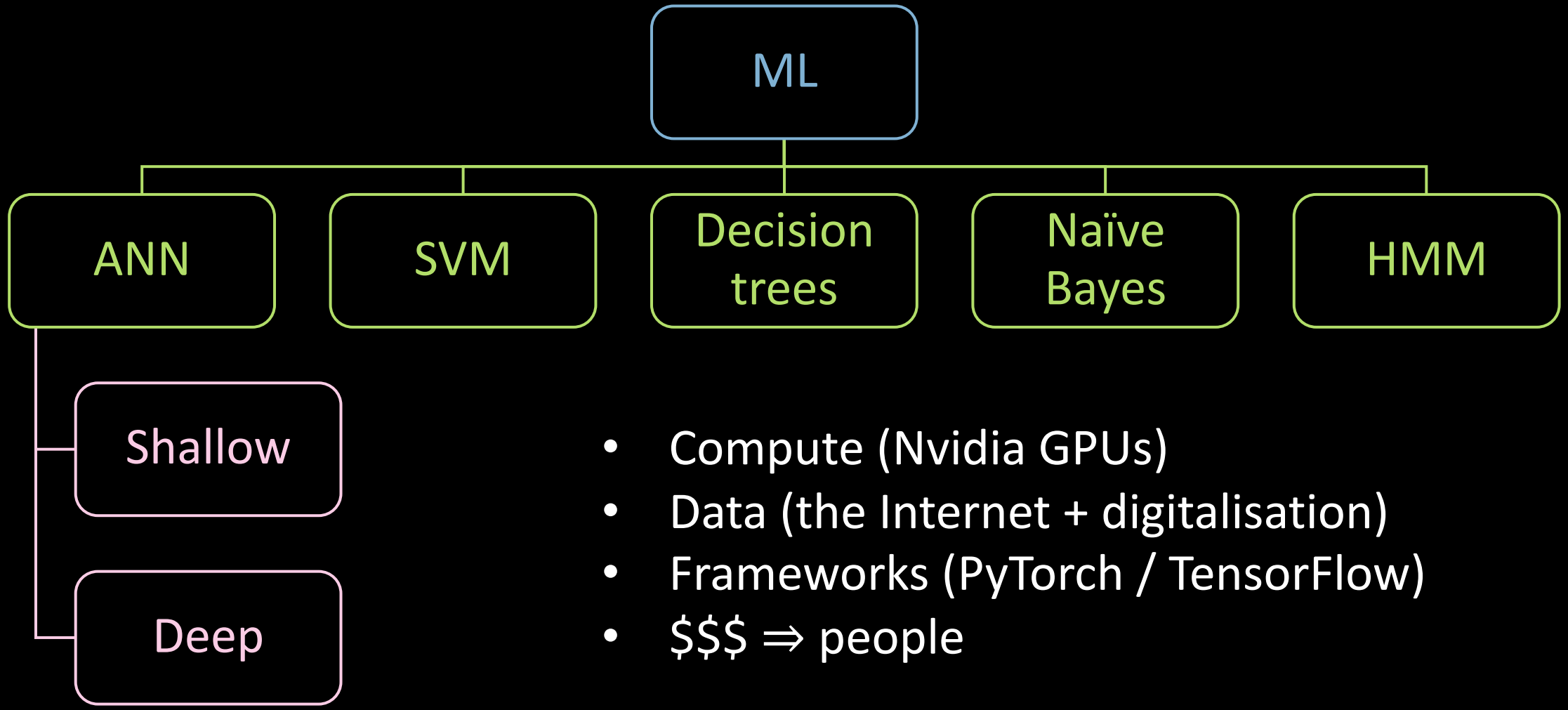
Regression

$y \in \mathbb{N}$

Classification



ML algorithms



- Compute (Nvidia GPUs)
- Data (the Internet + digitalisation)
- Frameworks (PyTorch / TensorFlow)
- $$$ ⇒ people