

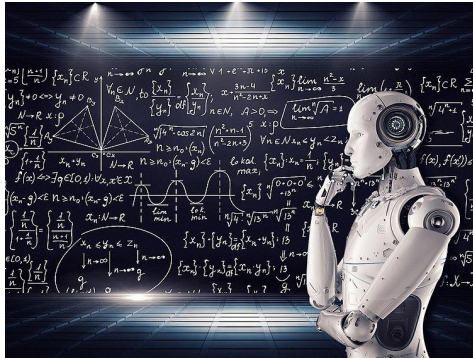


Hyperparameter Selection

Deep Learning Pre-Work

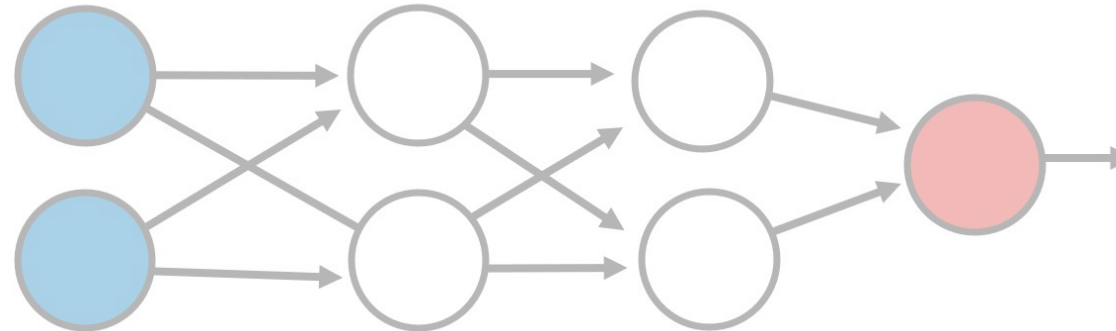
Deep Learning Hyperparameters

Machine Learning



Source: Wikimedia Commons

Hyperparameter Selection



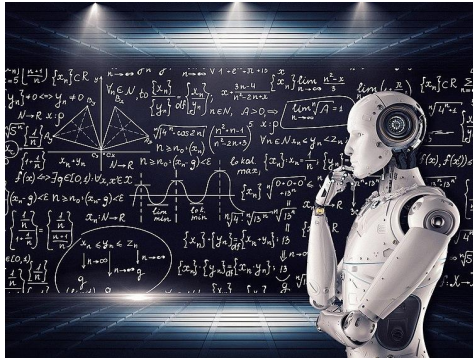
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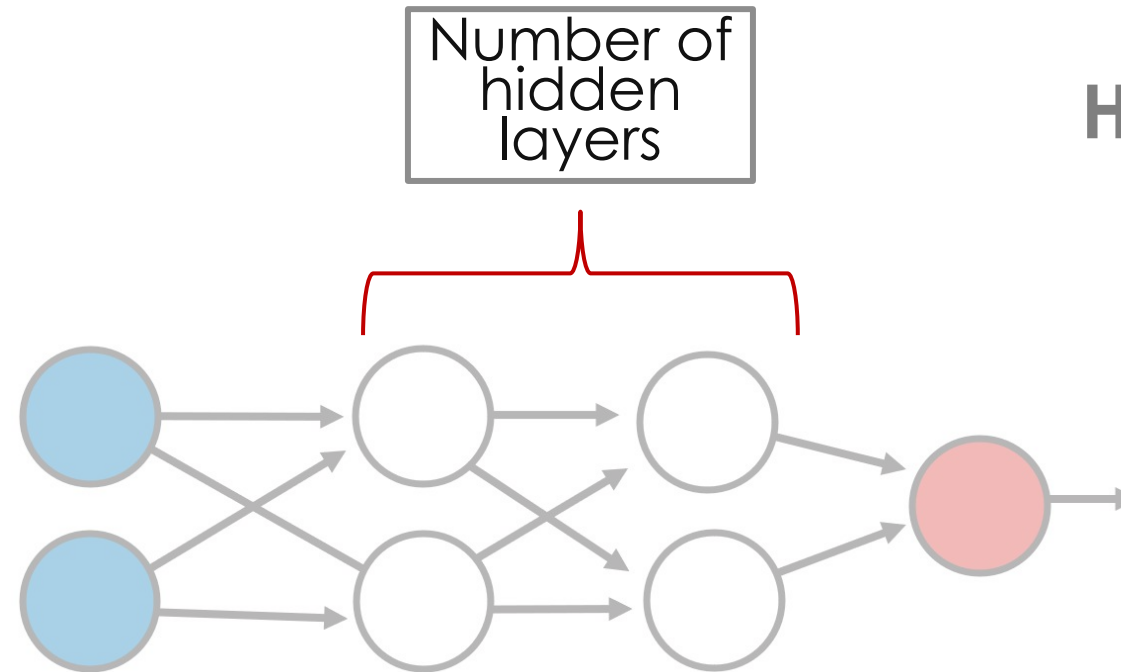
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Deep Learning Hyperparameters

Machine Learning



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Hyperparameter Selection



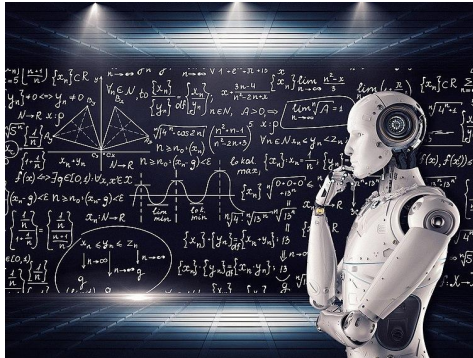
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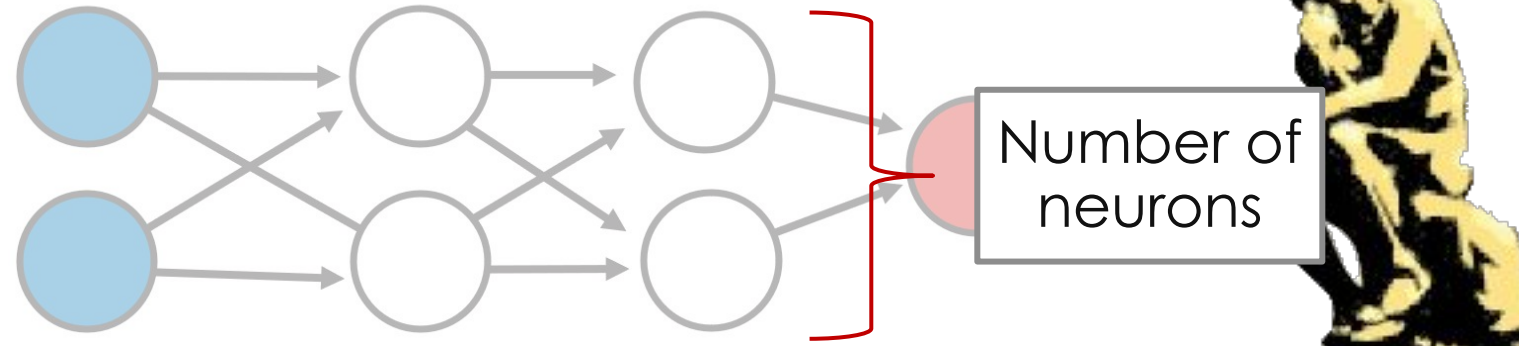
Deep Learning Hyperparameters

Machine Learning



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Hyperparameter Selection



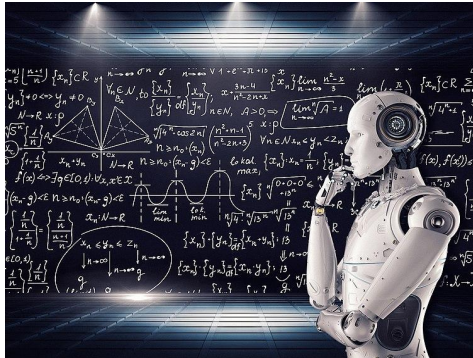
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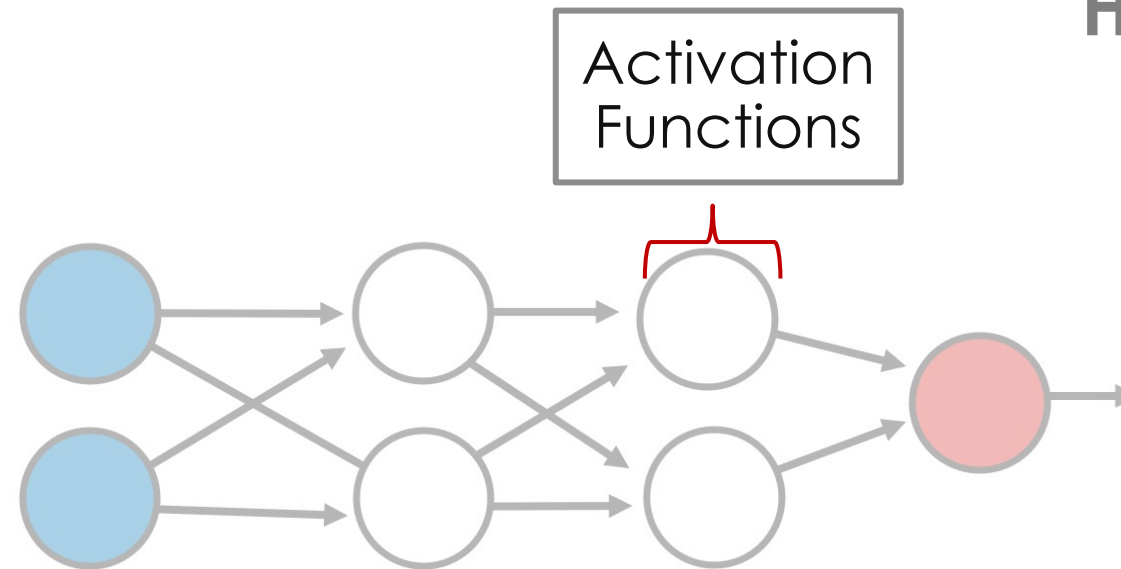
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Deep Learning Hyperparameters

Machine Learning



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Hyperparameter Selection



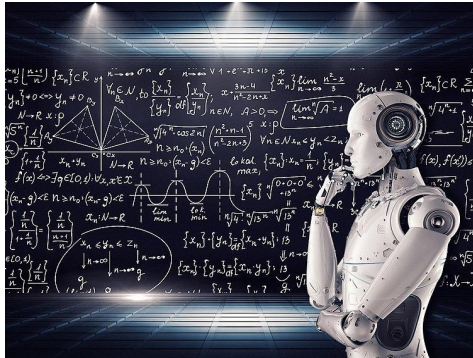
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Deep Learning Hyperparameters

Machine Learning



Source: Wikimedia Commons

- Epochs
- Batch size
- Learning rate
- Optimizers

Hyperparameter Selection



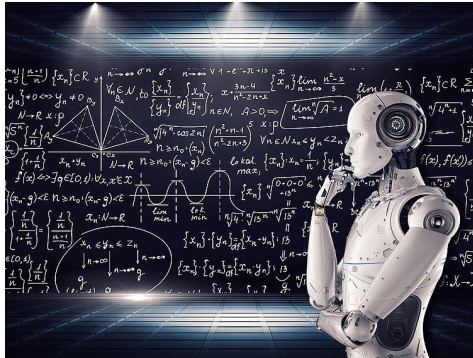
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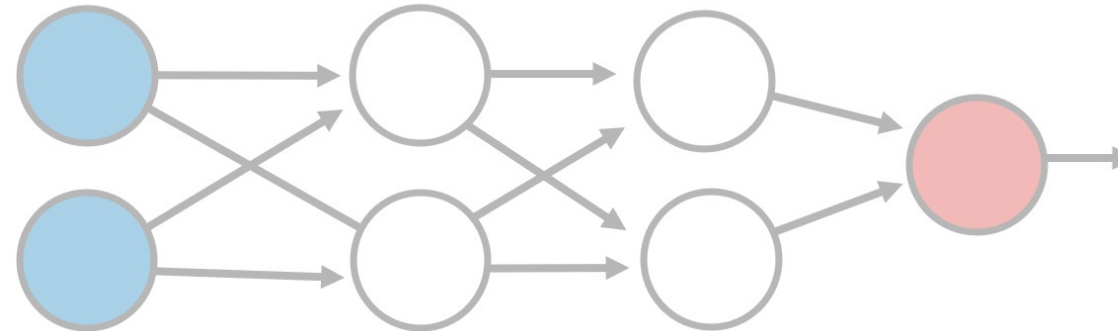
Deep Learning Hyperparameters

Machine Learning



Source: Wikimedia Commons

- Dropout rate
- Regularization
- Normalization Technique
- ...and more



Hyperparameter Selection



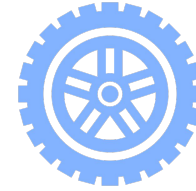
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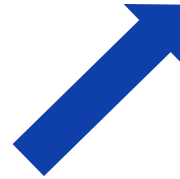
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Tips and Strategies

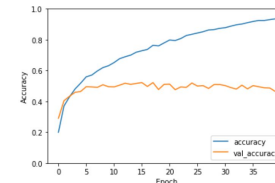
1) Don't reinvent the wheel



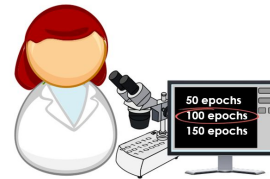
2) Start small and iterate



3) Look at loss plots



4) Tune hyperparameters



5) Don't worry about perfection



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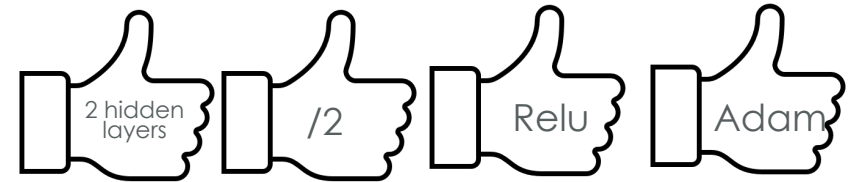
1. Don't reinvent the wheel



Previous projects



Rules of thumb



Google

Q deep learning predicting _____ X

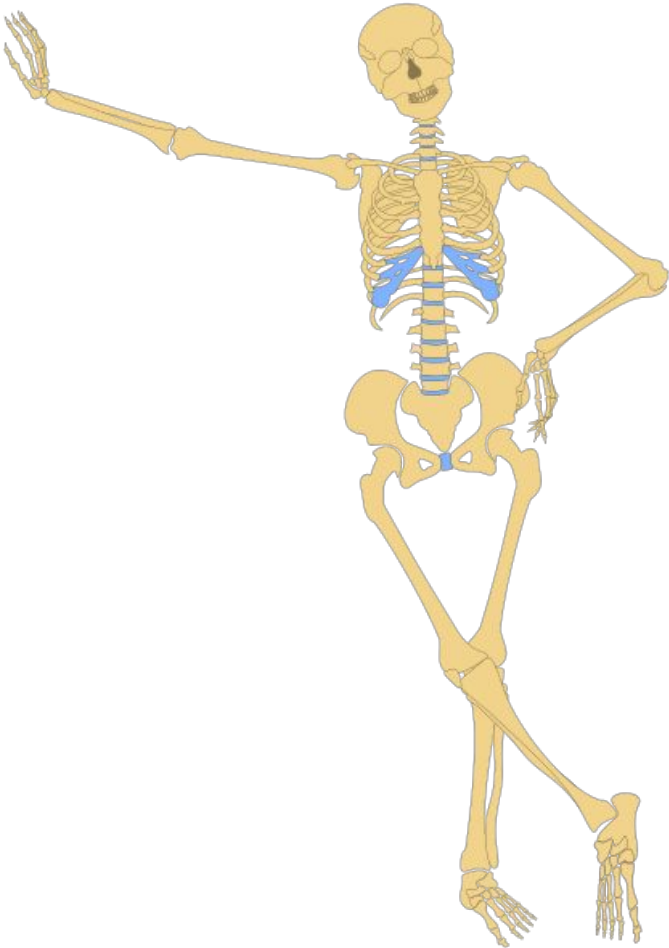
Google Search

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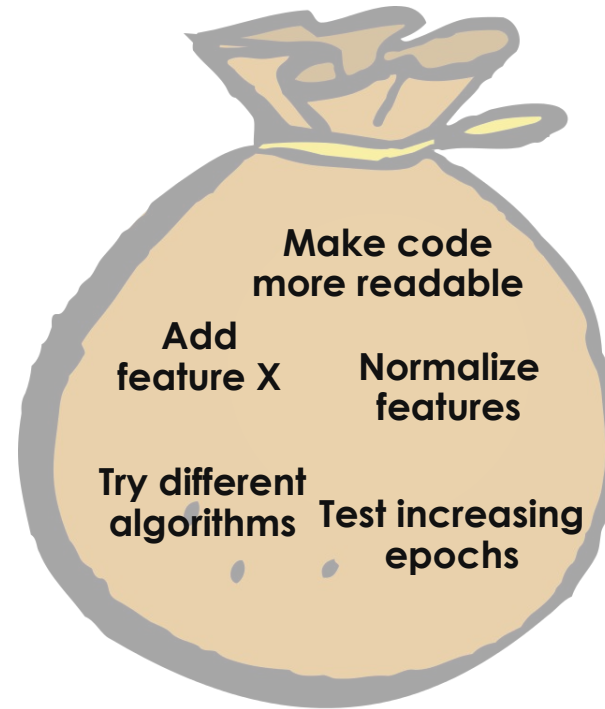
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2. Start small and iterate

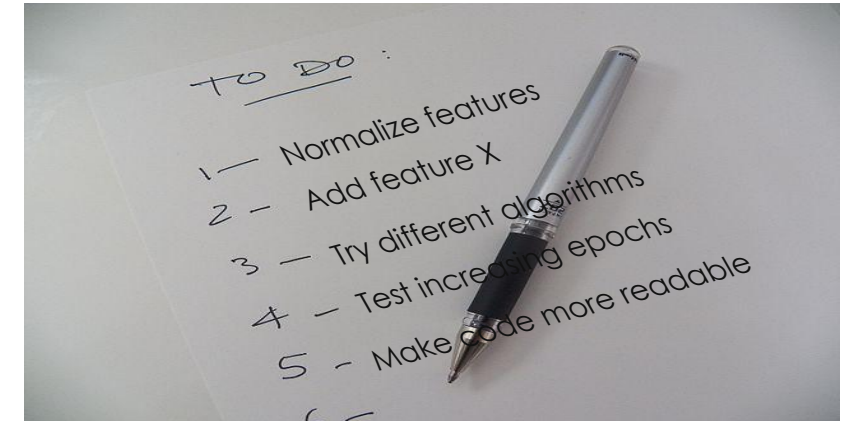
1. Build the skeleton



2. Collect ideas for enhancing



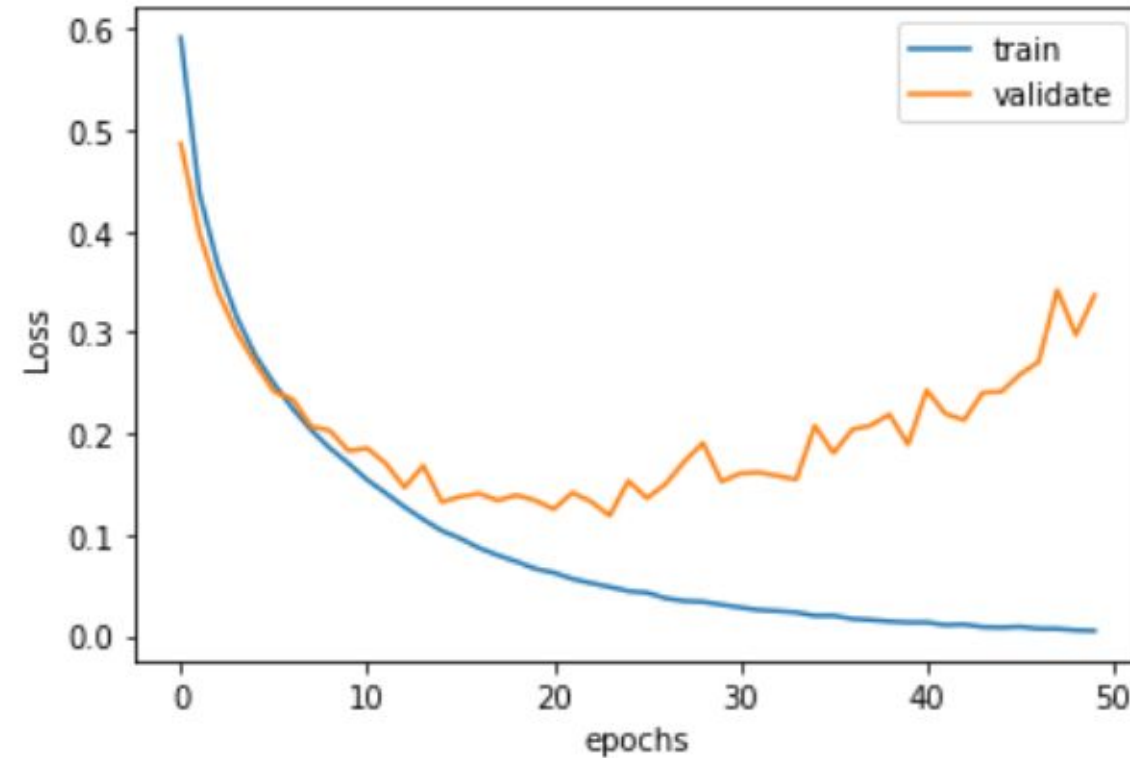
3. Implement one at a time until the deadline



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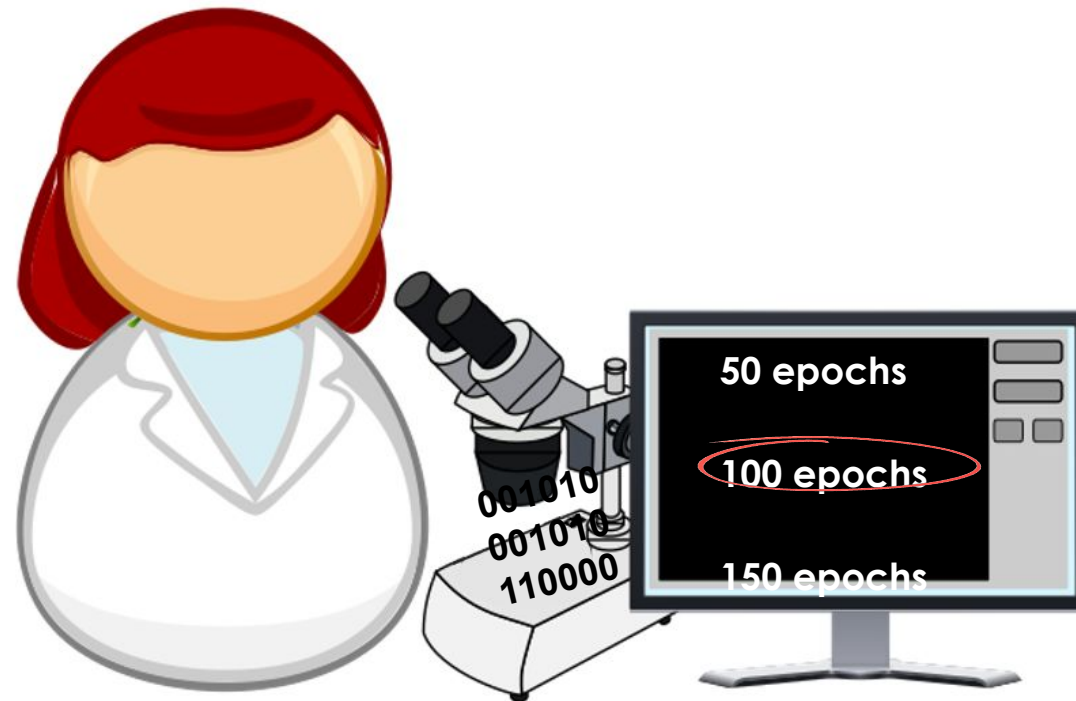
3. Look at loss plots



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4. Tune hyperparameters



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5. Don't worry about perfection



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