

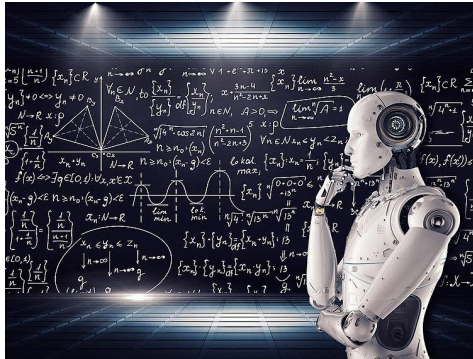


# Hyperparameter Selection

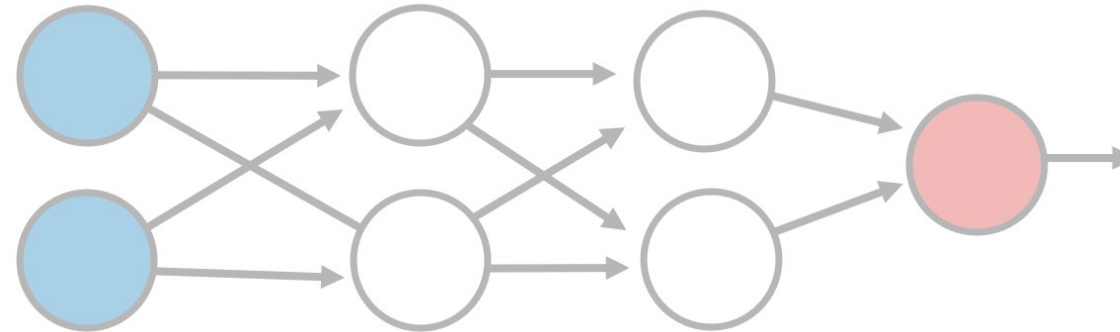
Deep Learning Pre-Work

# Deep Learning Hyperparameters

## Machine Learning



Source: Wikimedia Commons



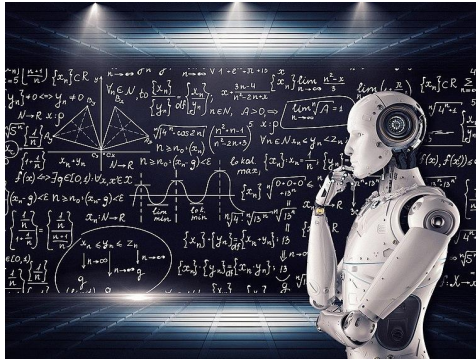
## Hyperparameter Selection



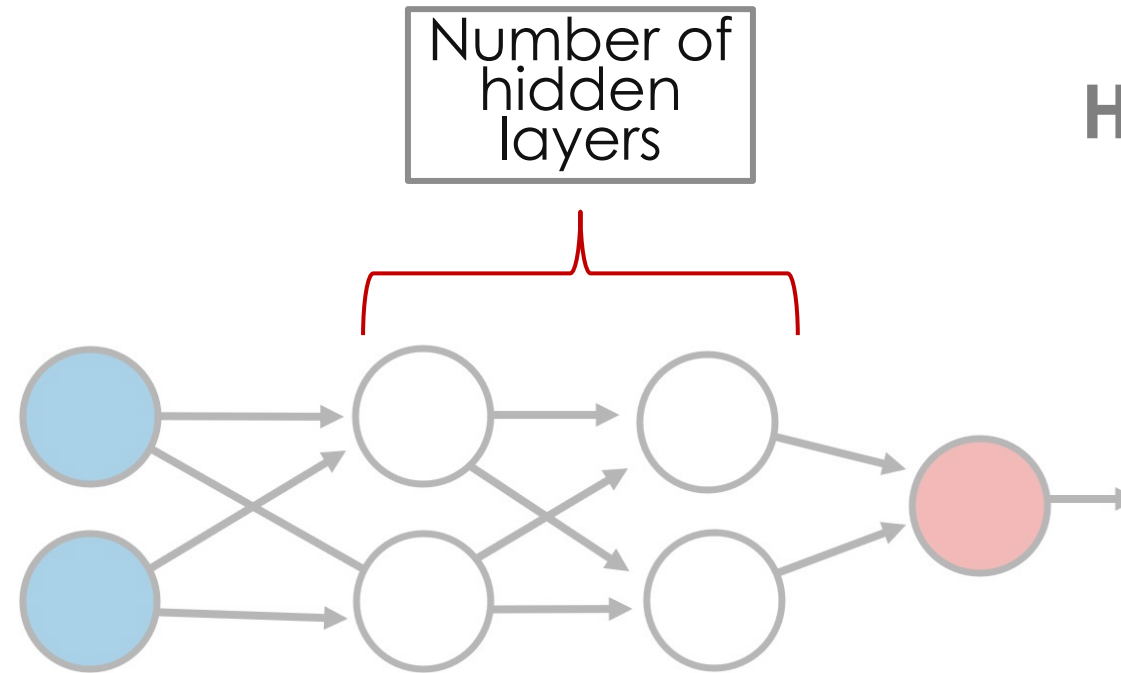
Source: Wikimedia Commons

# Deep Learning Hyperparameters

## Machine Learning



Source: Wikimedia Commons



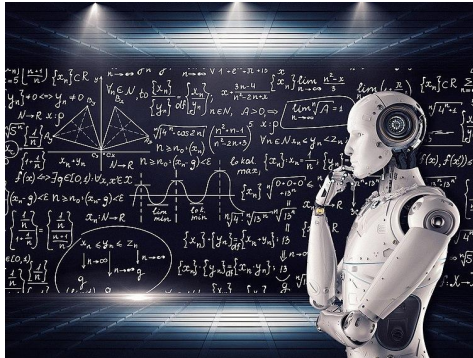
## Hyperparameter Selection



Source: Wikimedia Commons

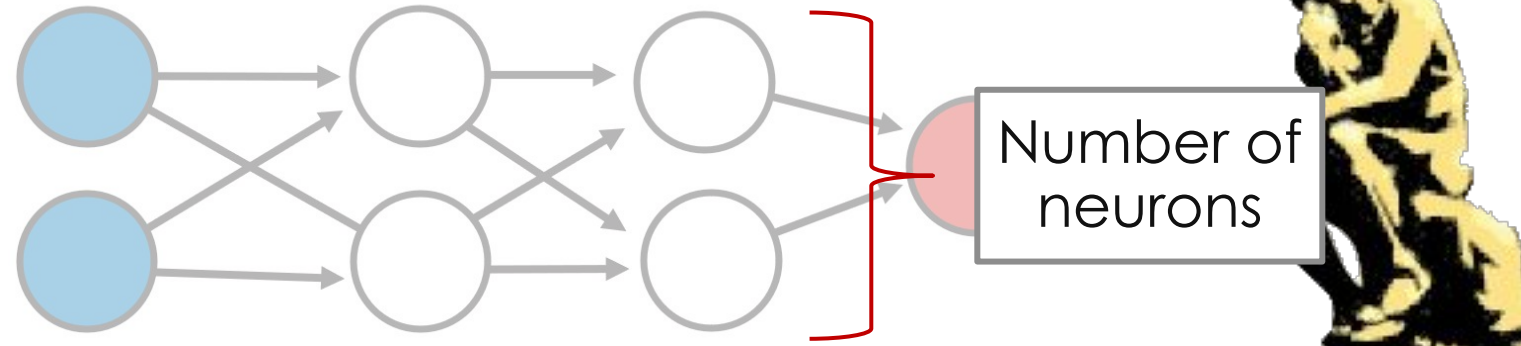
# Deep Learning Hyperparameters

## Machine Learning



Source: Wikimedia Commons

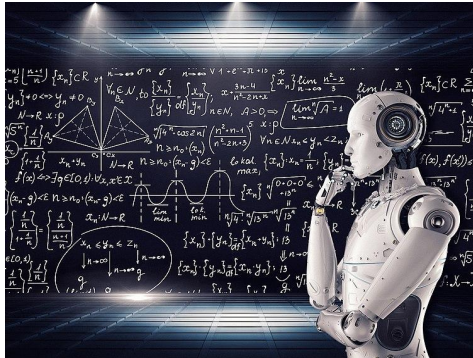
## Hyperparameter Selection



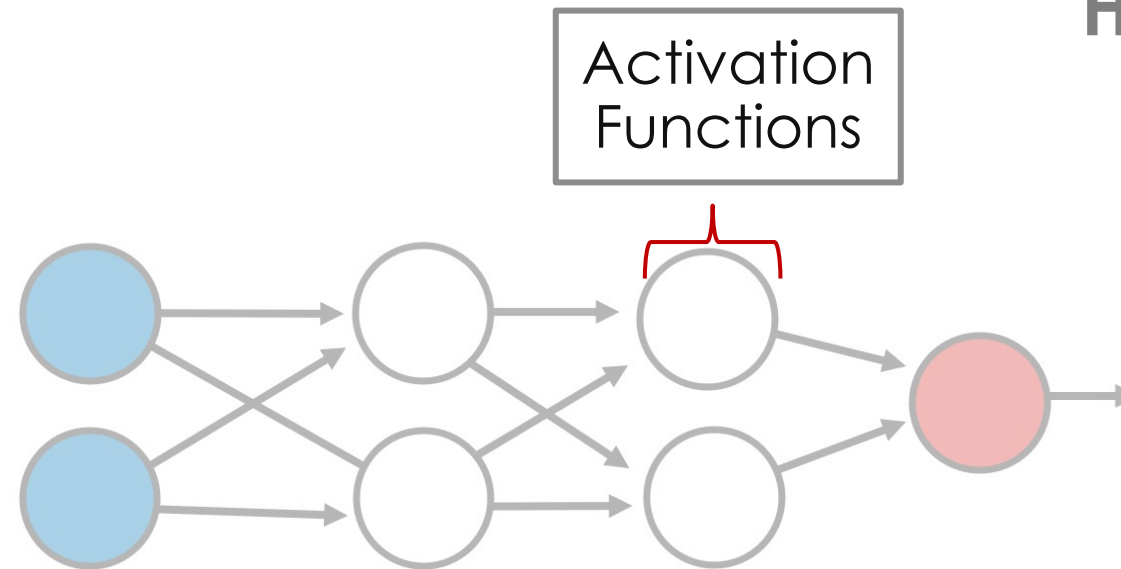
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# Deep Learning Hyperparameters

## Machine Learning



Source: Wikimedia Commons



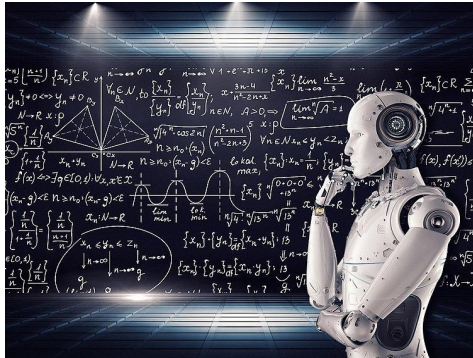
## Hyperparameter Selection



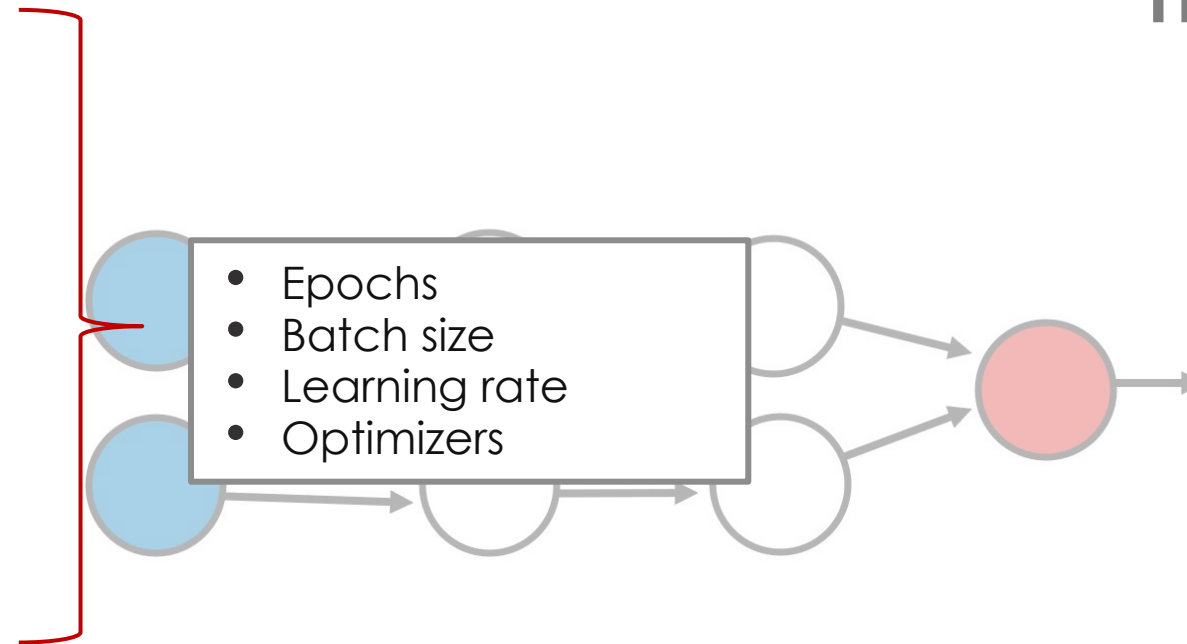
Source: Wikimedia Commons

# Deep Learning Hyperparameters

## Machine Learning



Source: Wikimedia Commons



## Hyperparameter Selection

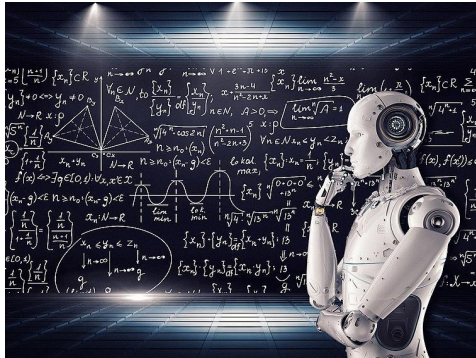


Source: Wikimedia Commons



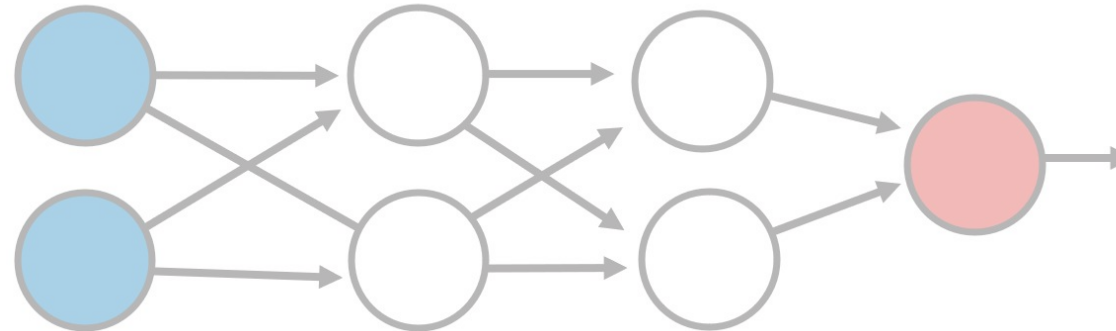
# Deep Learning Hyperparameters

## Machine Learning



Source: Wikimedia Commons

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



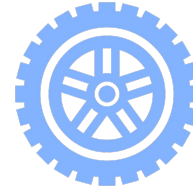
## Hyperparameter Selection



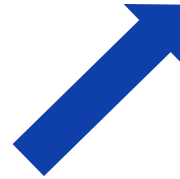
Source: Wikimedia Commons

# Tips and Strategies

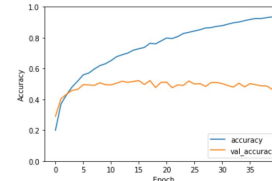
1) Don't reinvent the wheel



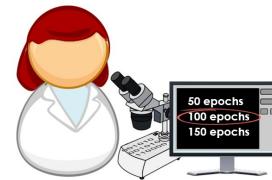
2) Start small and iterate



3) Look at loss plots



4) Tune hyperparameters



5) Don't worry about perfection





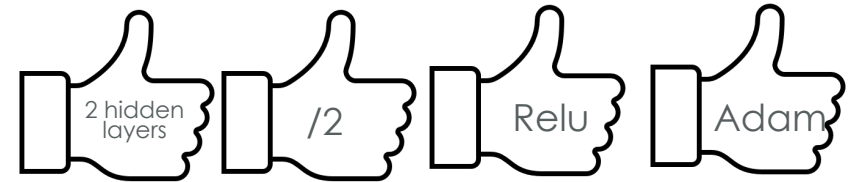
# 1. Don't reinvent the wheel



Previous projects



Rules of thumb



Google

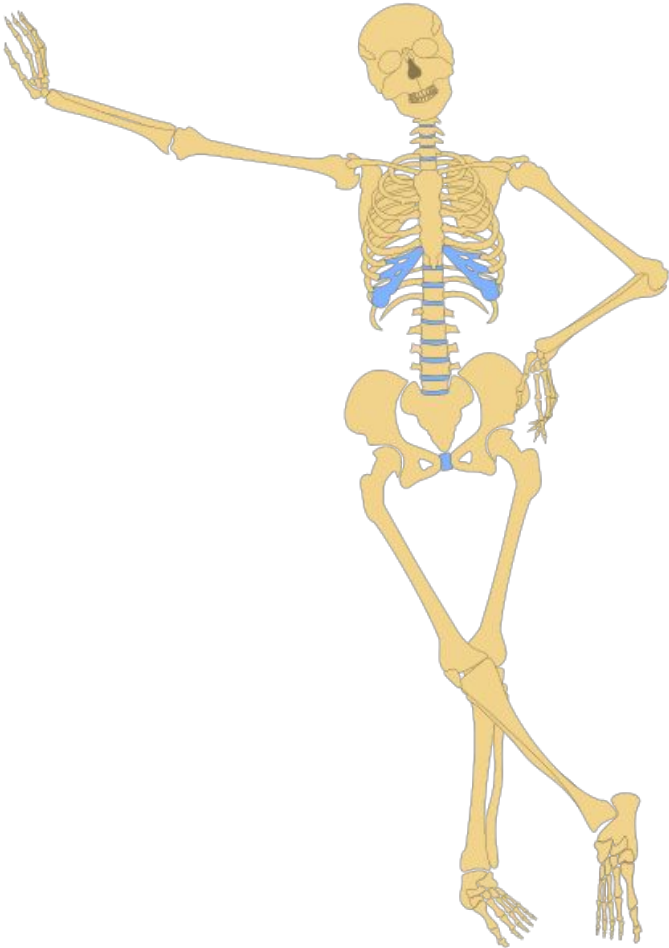
Q deep learning predicting \_\_\_\_\_ X

Google Search

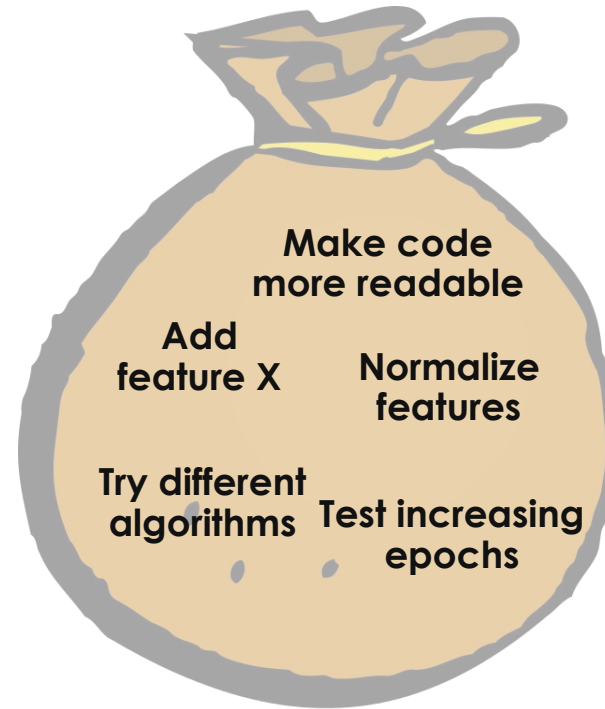
## 2. Start small and iterate



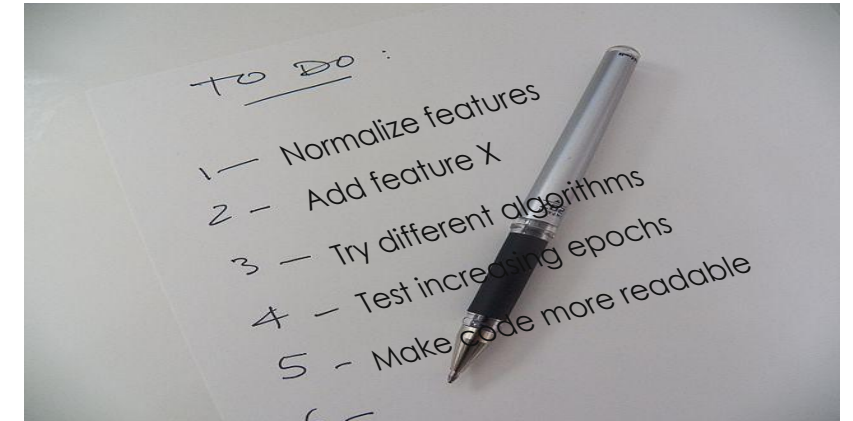
1. Build the skeleton



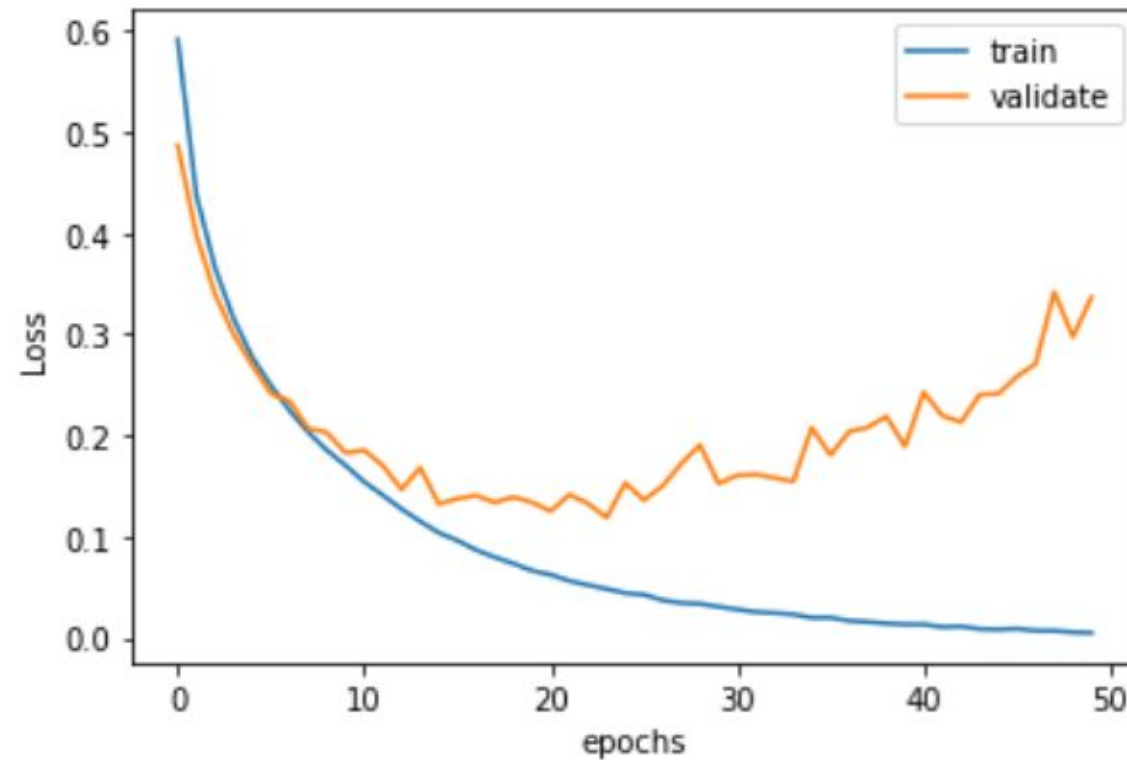
2. Collect ideas for enhancing



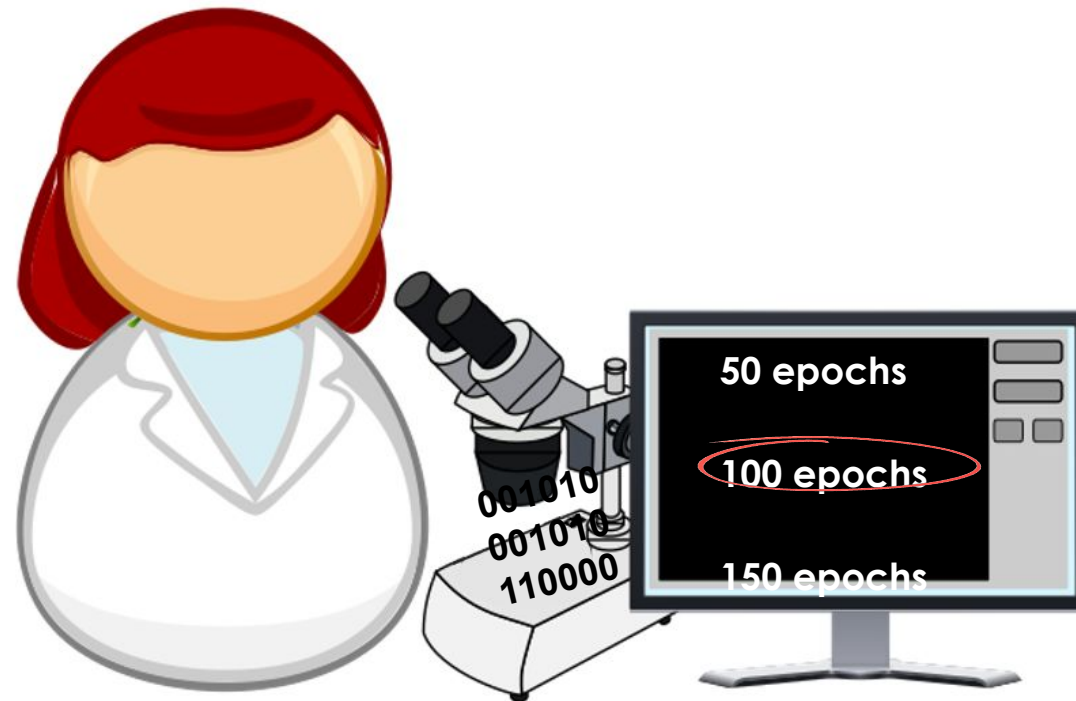
3. Implement one at a time until the deadline



### 3. Look at loss plots



## 4. Tune hyperparameters



## 5. Don't worry about perfection

