

# *Artificial Intelligence: Modeling Human Intelligence with Networks*

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# Modern CNNs

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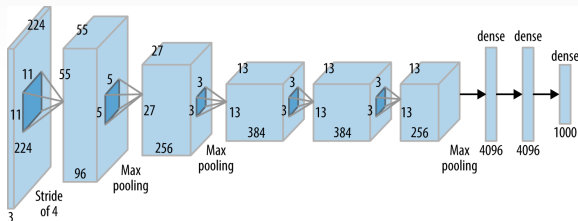
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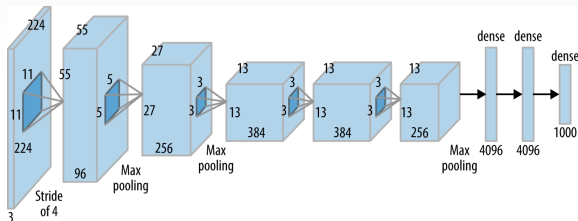
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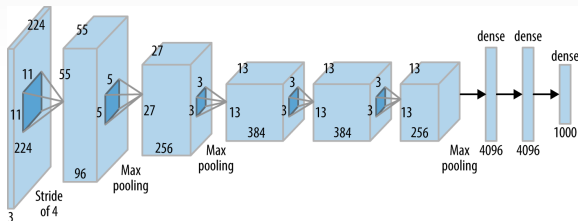
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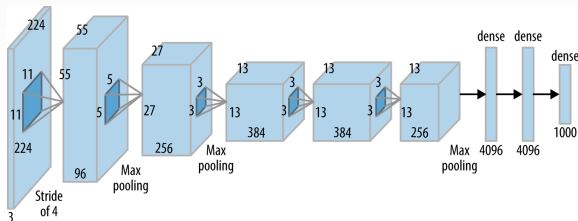
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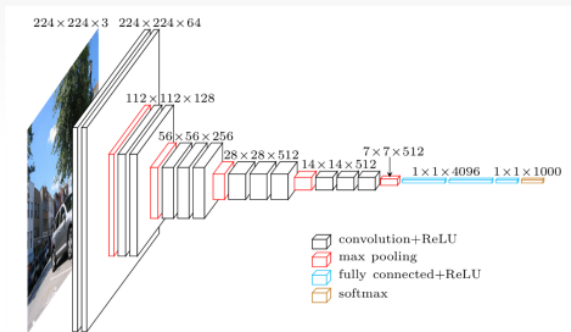
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- Training time: 6 days!

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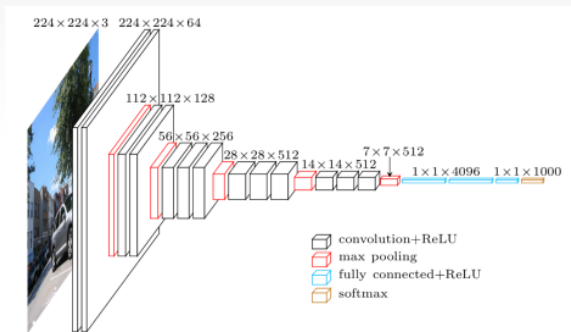
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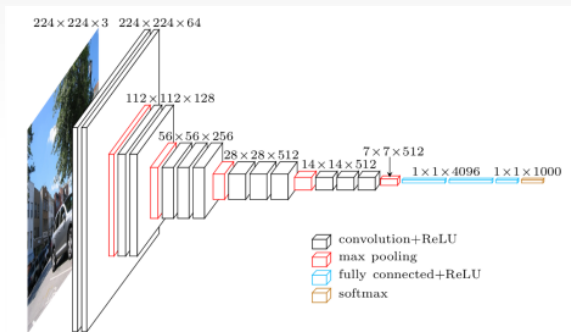
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- 138,357,544 weights!

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- “Only” 25 million parameters (used a residual architecture).

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IMGENET

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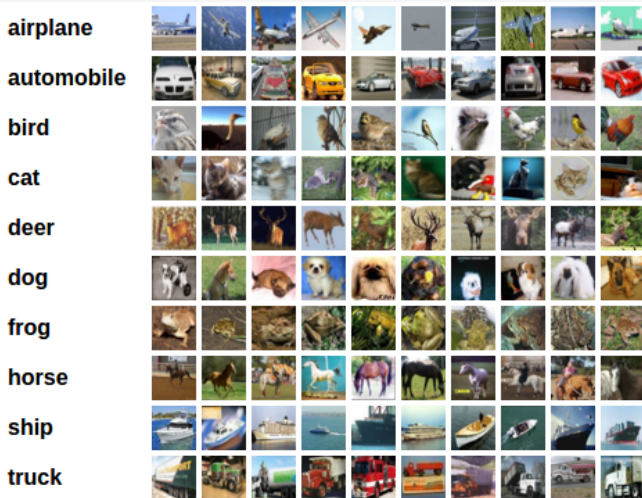
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- Things about it:
  - ▶ More than 1.2 million images!
  - ▶ 1000 classes (several hundred images per class)!
  - ▶ Very realistic images!

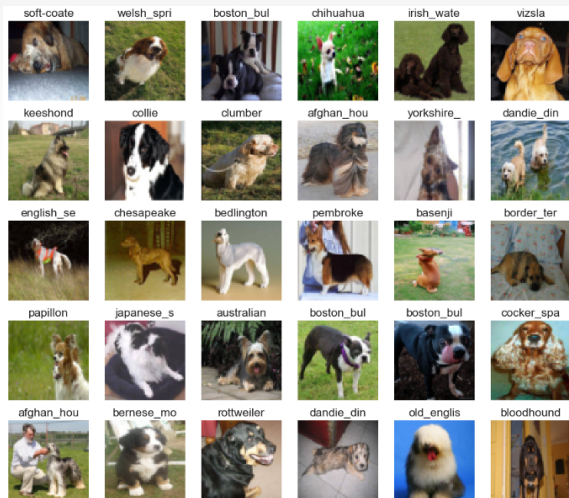
# Image Net

- For example:



# Image Net

■ Or these dogs::



# Image Net

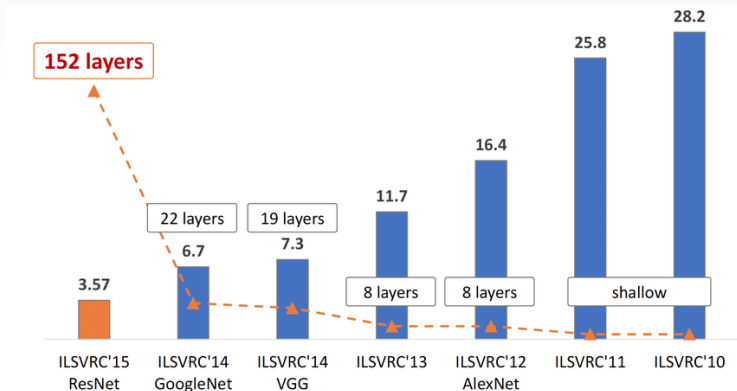
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- Here's the champions year by year (top-5 error rate):



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- But we can still use the *pre-trained* models with Keras!
- Keras offers ResNet (any some others) model, for example!
- Jupyter notebook! (Our last one...)