Deep Learning
- a Practical Guide

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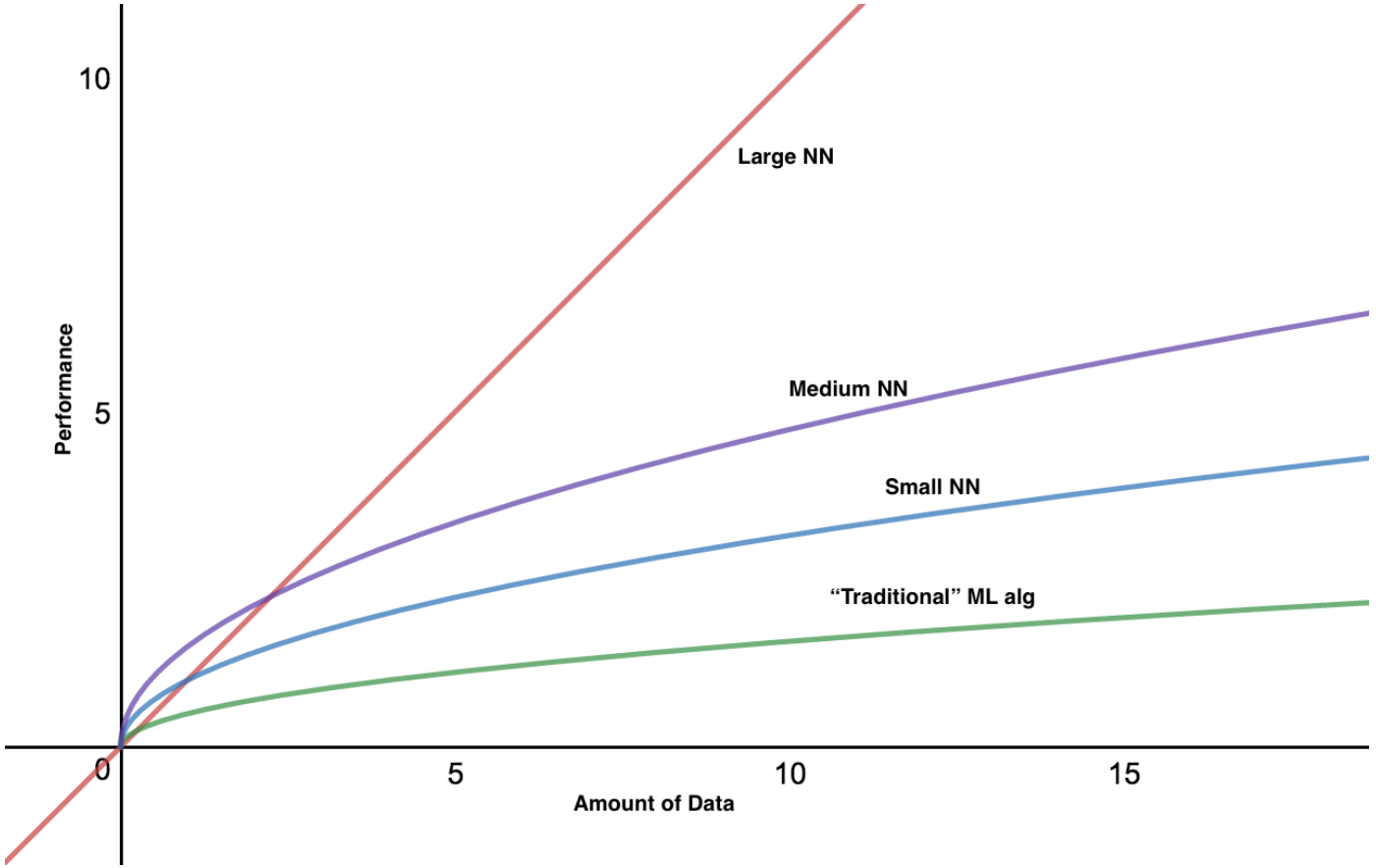
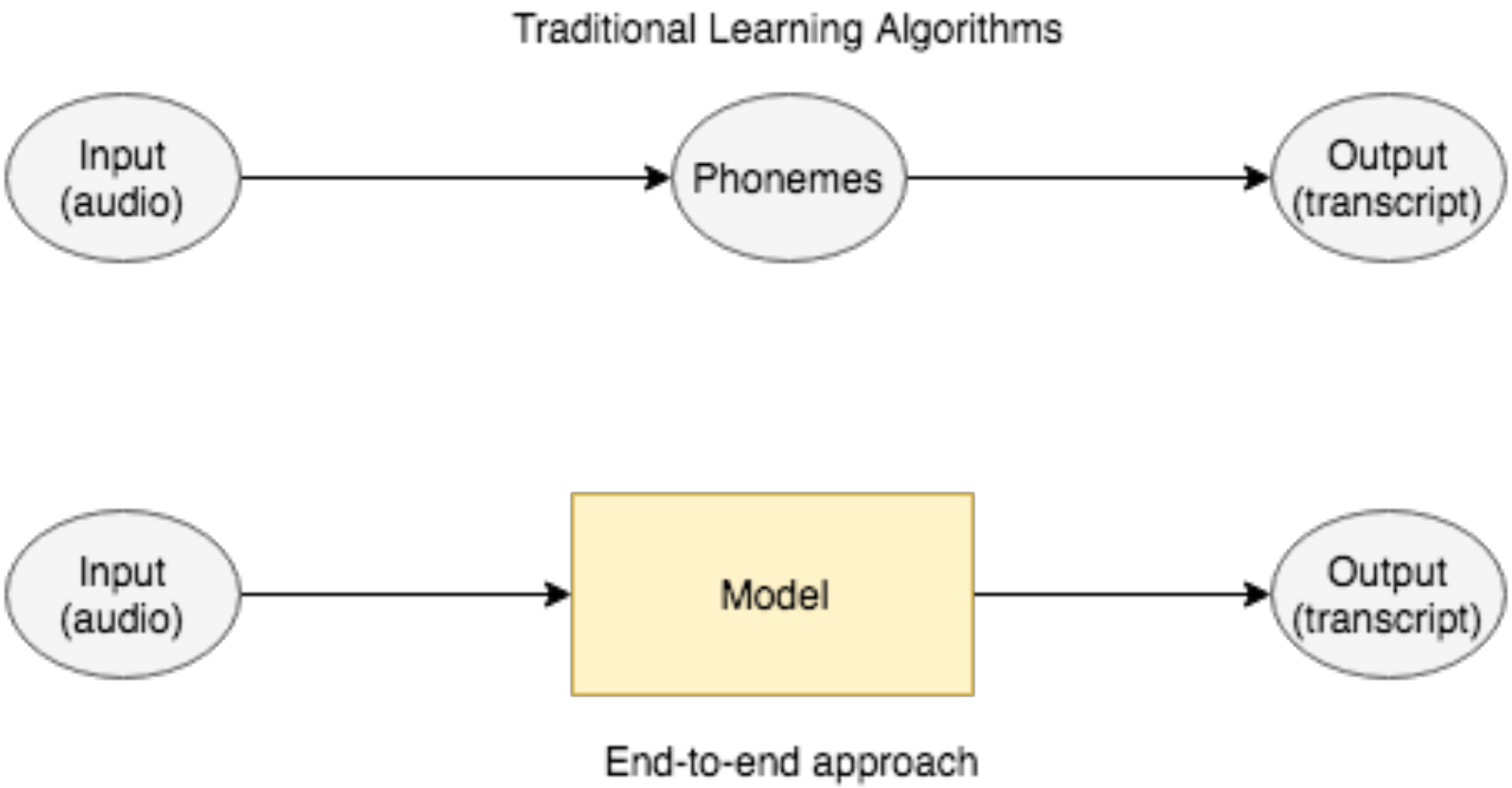
VSLab

Why Big IT loves DL?

- Capacity to absorb big data



End-to-End DL with Caution



End-to-End DL with Caution

- Pros
  - less domain experts' knowledge requried
  - Large performance gain
- Cons
  - Need huge amount of training data
  - Training large model might be tricky

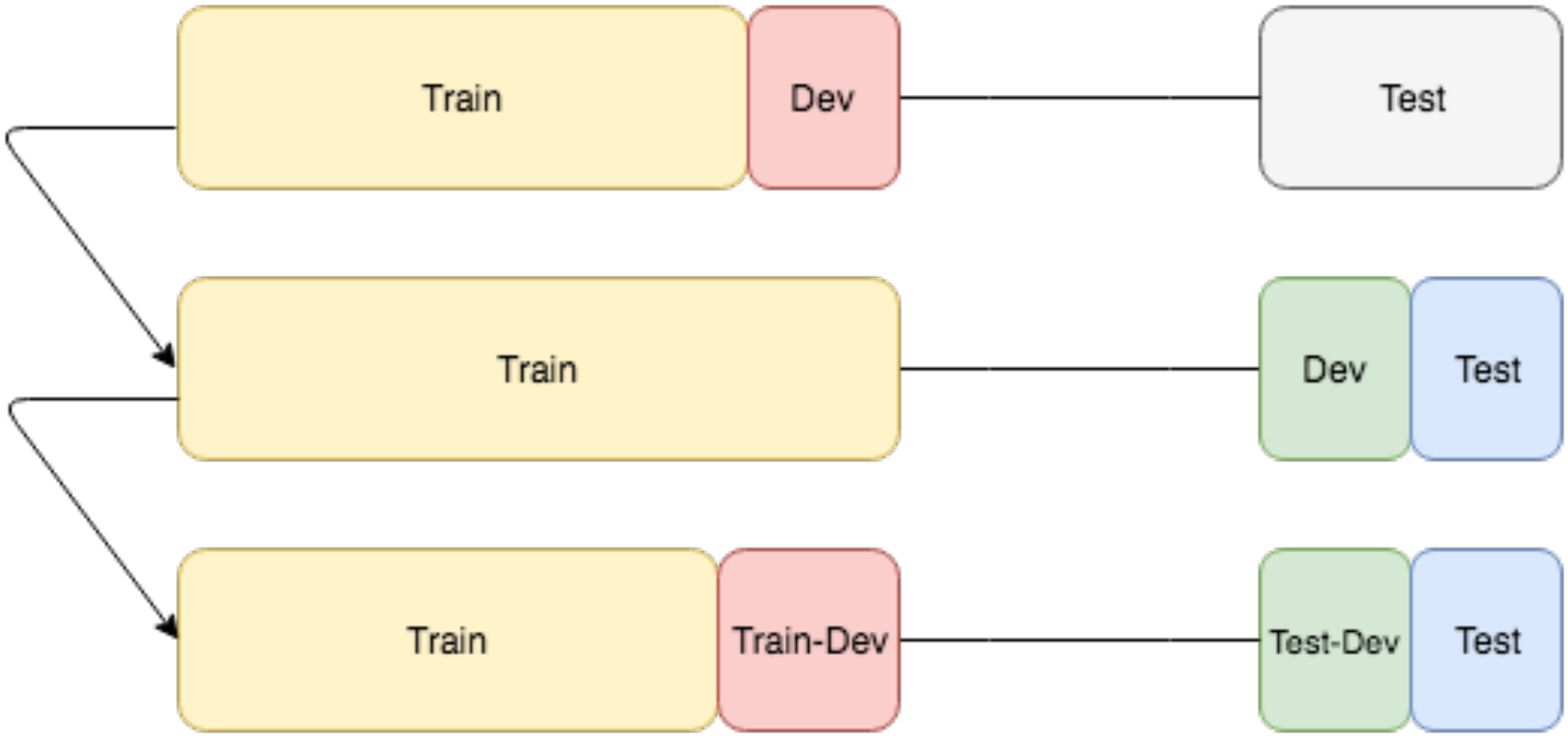
Don't bet only on End-to-End when data is scarce

How to start?

- Find a way to progrssively reach about 1K (hopefully) balance data
- At the same time, create a benchmark dataset
  - Training (validation/dev is important)
  - Testing (from simple to hard, gradually)
- Benchmark classical method
  - Non-ML methods
  - Traditional-ML methods

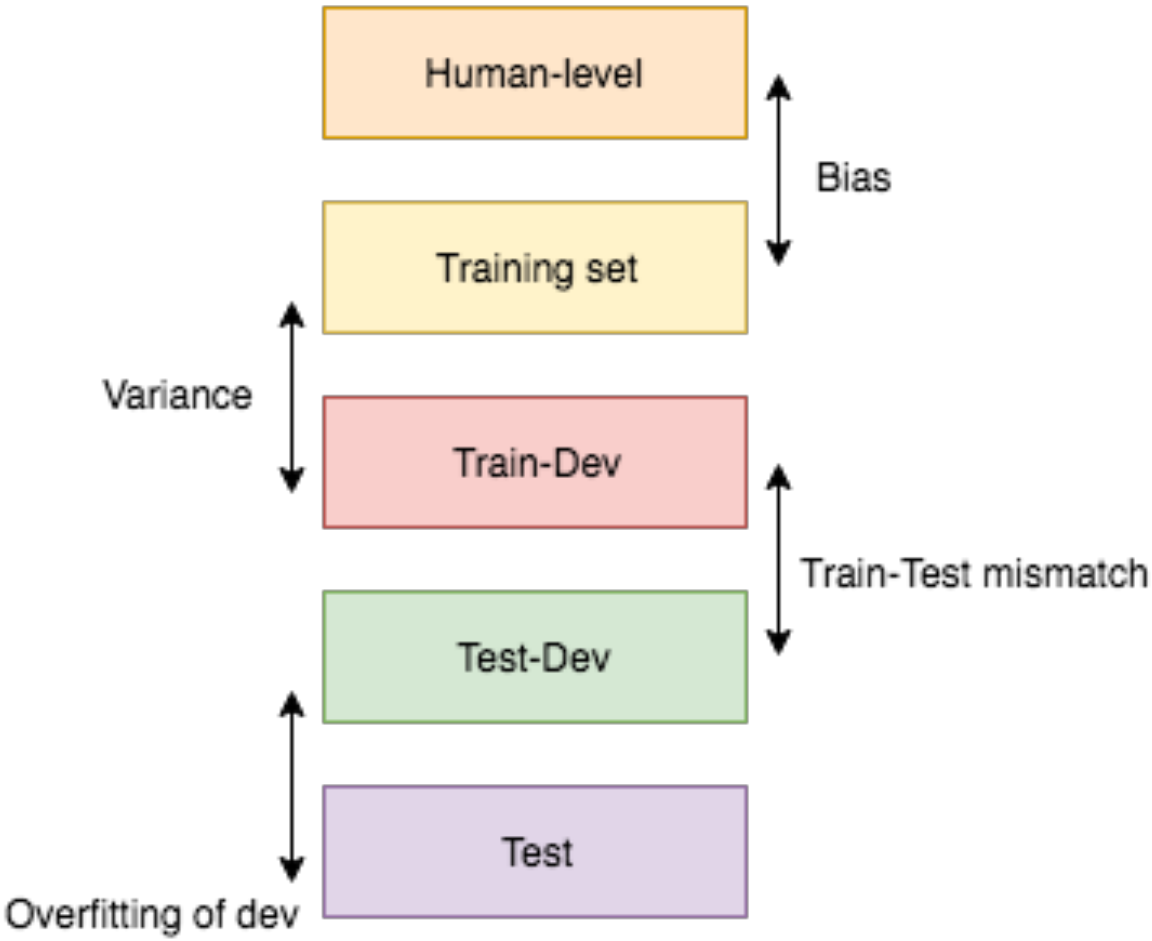
Train & Test Different Distribution

- Split your data



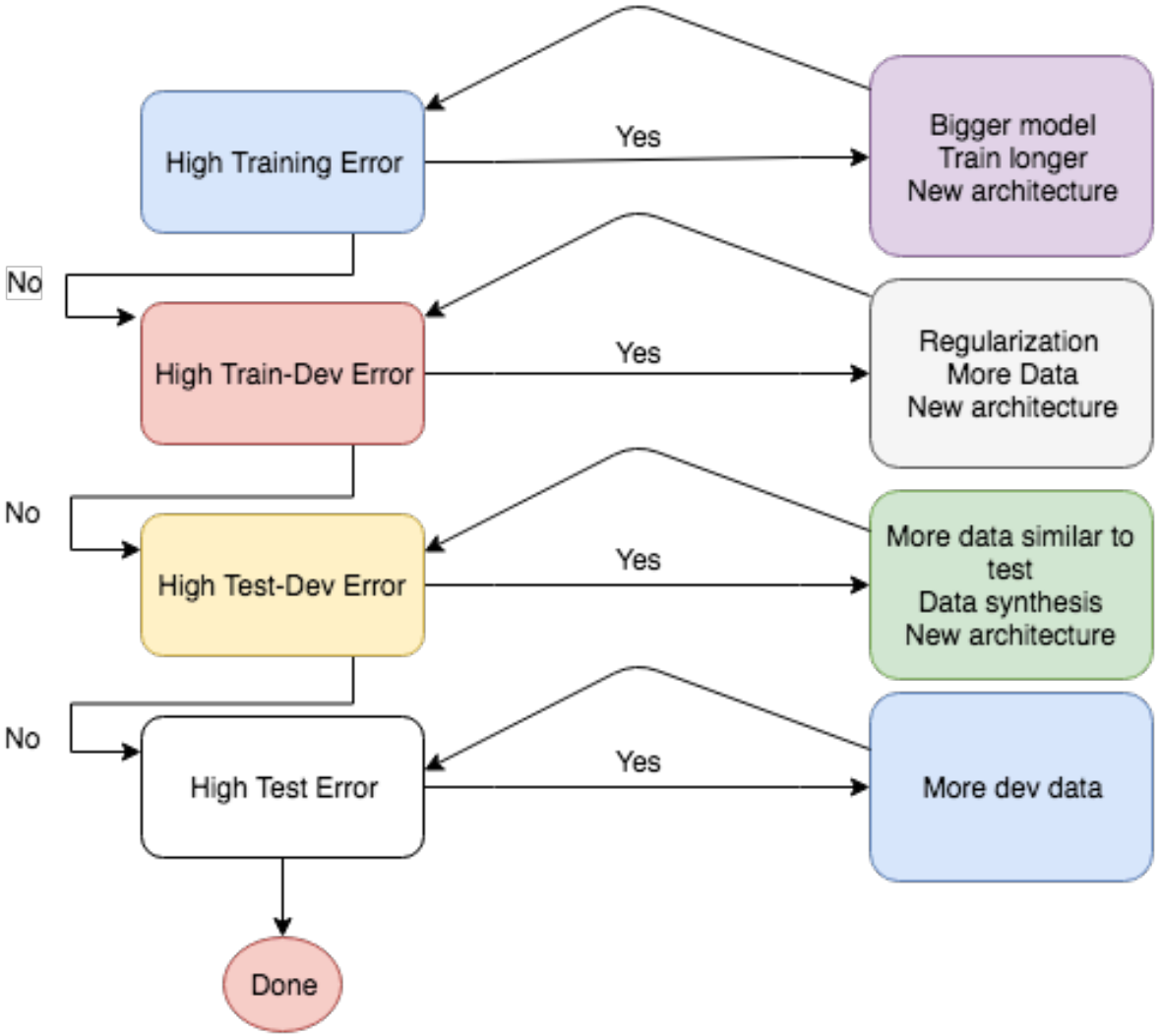
Andrew Ng's advice

Any Gap between



Andrew Ng's advice

Steps



Andrew Ng's advice

Cross Domains

- Data Synthesis
- Domain Adaptation
- Transfer Learning

Andrew's Advice on Learning DL

- Practice, Practice, Practice: compete in Kaggle competitions and read associated blog posts and forum discussions.
- Do the Dirty Work: read a lot of papers and try to replicate the results. Soon enough, you'll get your own ideas and build your own models.