

# DL Dev Course: Week 01b

# Projects

- 3 Set Projects
- 2 You choose.
- Various mini challenges
- We want to do projects where there isn't just a simple one correct way.

# Your Projects

- Pick something that you are genuinely passionate and interested about.
- If it helps your work even better.
- Serious amount of time is going to be invested.
- Write up a blog post or give a talk about it (TensorFlow or PyTorch would be a great location)

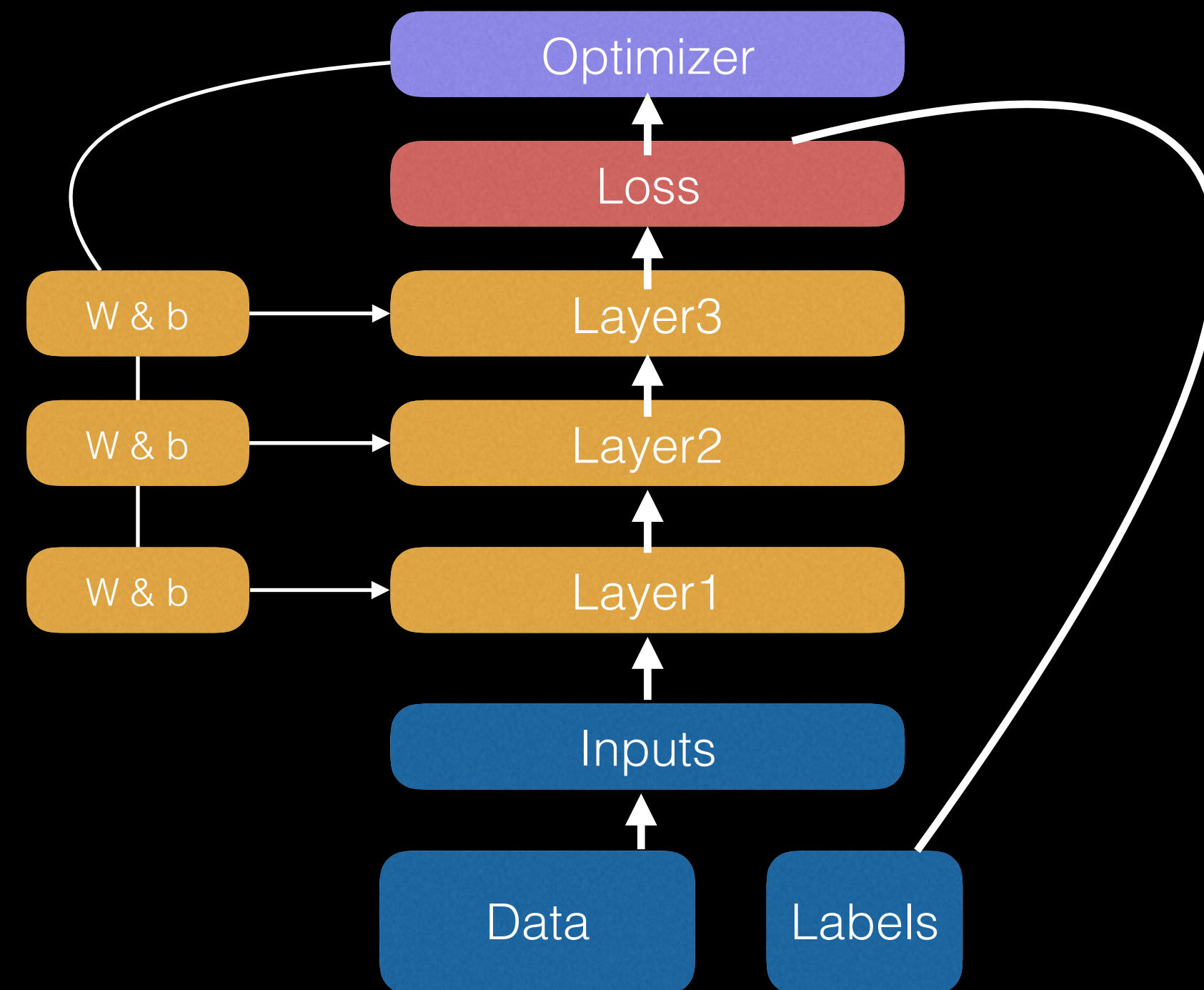
# Dataset

- What data are you going to use?
- Can you get enough of it?
- How can you collect it?
- Do you need to build a tool?

# What are you trying to predict?

- Try to be as clear and precise as possible
- Make sure your data can predict that kind of result
- What level of accuracy do you need for it to be a success?
- False Positives vs. False Negatives

# ANN



# Project 01

- $f(x)$  Function Approximation
- Build a Dense Network to solve the following problem
- Addition of 2 numbers between 0-100
- Remove certain numbers eg. 50 and make sure that the network can still generalize. How many can you remove?
- Make it Classification rather than Regression
- Play with the network size, hyper parameters, and activation functions.
- You will need to make a dataset on your own too

# Project 01

- Make sure you are removing from training data and not test data.
- Do you need to normalise you inputs?
- `model.predict()` try out the model
- `model.save & load_model`



# Parts of a Network

- Layers
- Neurons/nodes
- Activation Function
- Loss Function
- Logits layer
- Optimization function