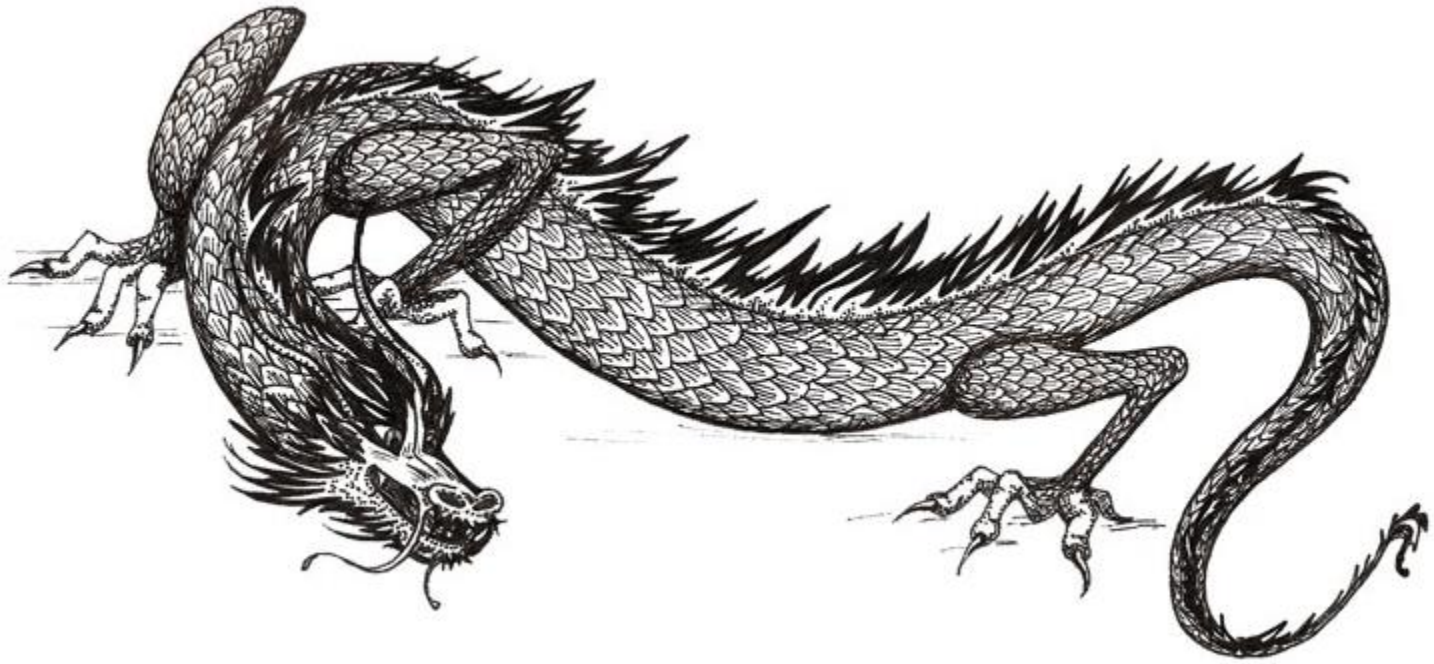


测试（张量）实战

主讲：龙良曲

Test/Evaluation

- train/evaluation/test splitting
- Stop at the best epoch
- Use the best epoch model to production

Accuracy

- Pred: [Y, Y, Y, N, Y, N, N, Y, N, Y]
- Label:[Y, N, Y, Y, N, Y, N, Y, N, Y]
- Equal:[1, 0, 1, 0, 0, 0, 1, 1, 1, 1]
- Acc: 6/10

Acc.

```
for step, (x, y) in enumerate(test_db):
    # layer1.
    h1 = x @ w1 + b1
    h1 = tf.nn.relu(h1)
    # layer2
    h2 = h1 @ w2 + b2
    h2 = tf.nn.relu(h2)
    # output
    out = h2 @ w3 + b3
    # [b, 10] => [b]
    pred = tf.argmax(out, axis=1)
    # convert one_hot y to number y
    y = tf.argmax(y, axis=1)
    # bool type
    correct = tf.equal(pred, y)
    # bool tensor => int tensor => numpy
    total_correct += tf.reduce_sum(
                tf.cast(correct, dtype=tf.int32)).numpy()
    total += x.shape[0]
```

JUST
DO
IT.

小结

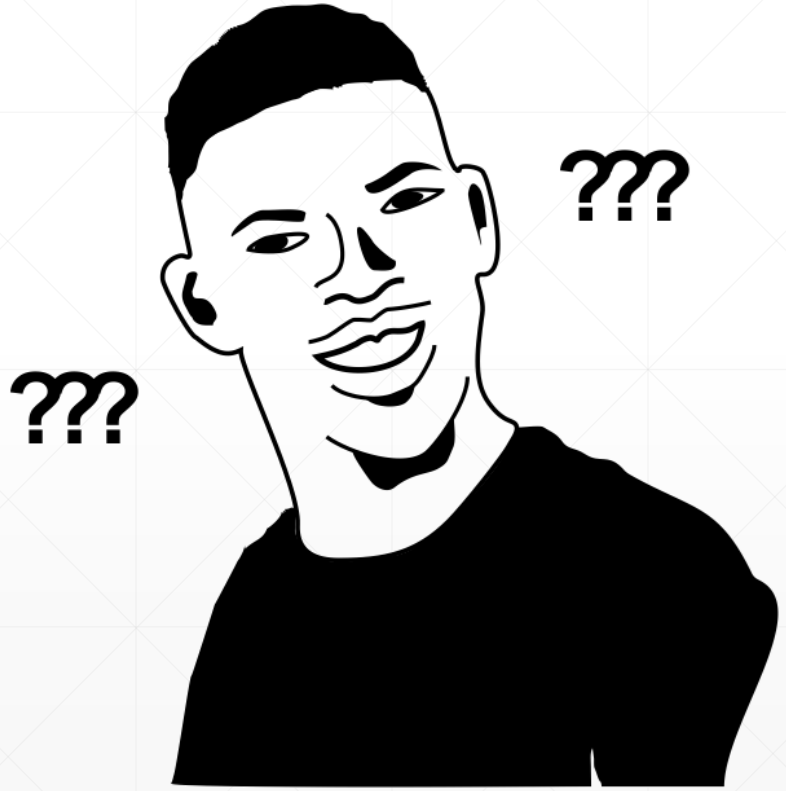
方程组 → 引入噪声 → 引入梯度 → Numpy实战 → 引入离散预测

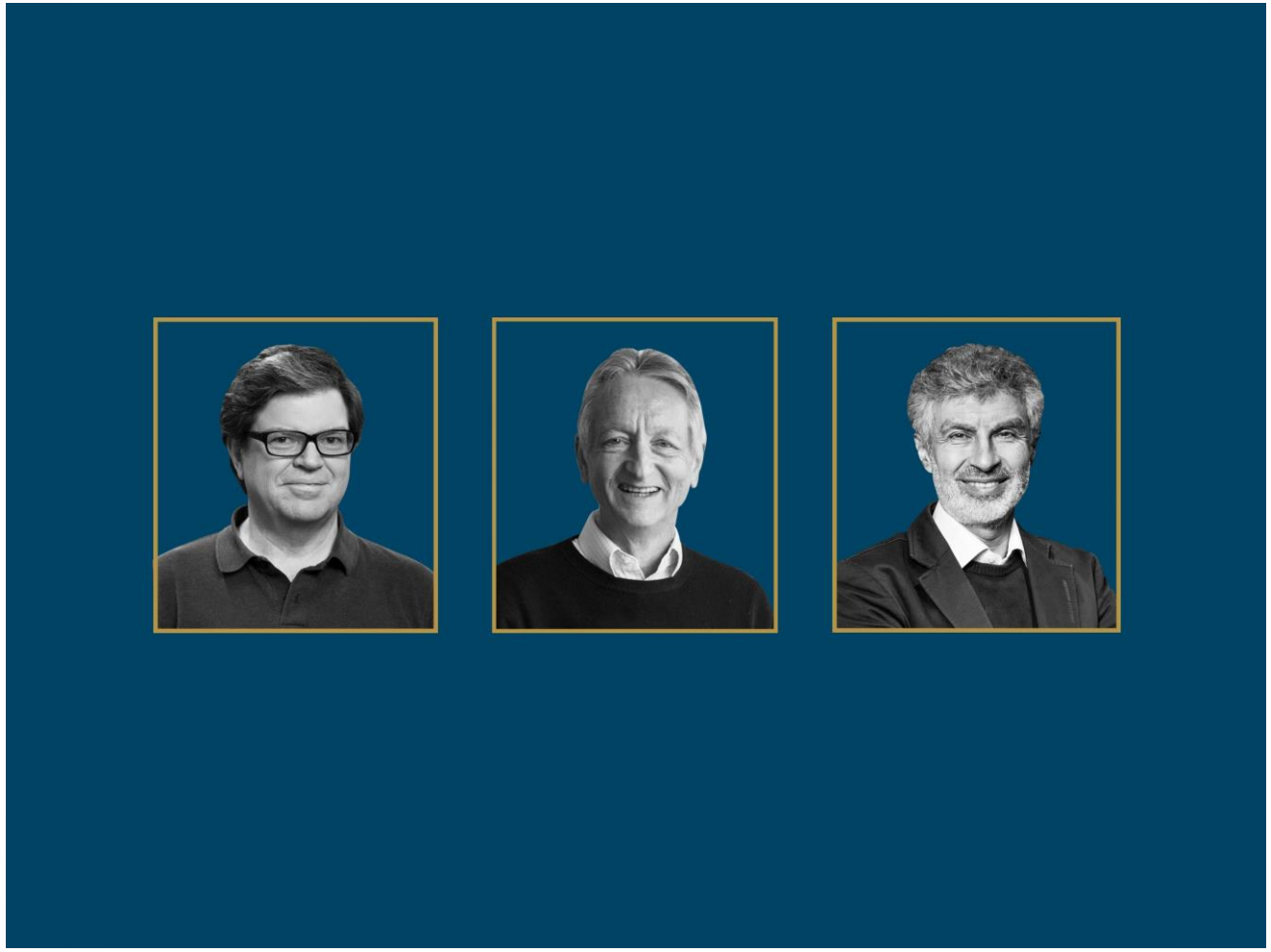
读取数据 → 构建模型 → 前向传播实战 → 误差计算 → 梯度计算及更新 → 测试实战

Where is Deep Learning?

- $out = relu\{relu\{relu[X@W_1 + b_1]@W_2 + b_2\}@W_3 + b_3\}$

- forward
- gradient descent
- evaluation/test





下一课时

全连接层

Thank You.