

A man with a beard and glasses, wearing a VR headset, is shown from the side and back. He is interacting with a virtual interface using two motion controllers. Two glowing circles, one blue and one red, are positioned above his hands, corresponding to the text 'TensorFlow' below them.

TENSORFLOW

Playground Presentation

Unveiling the Secrets Through TensorFlow Playground



Such development is never a leap forward, but rather a smooth, gradual, and complex process that takes place over a relatively long period.

Info

What are Neural Networks?

- Inspired by the human brain
- Composed of layers of artificial neurons
- Applying mathematical functions to weighted inputs
- Learn by adjusting weights based on errors



Exploring the Playground



- TensorFlow Playground: An interactive web-based tool
- Allows experimentation with different neural network configurations
- Provides visualizations and insights into network behavior

Impact of Activation Functions

- Activation functions introduce non-linearity in the network
- ReLU: Faster convergence, better for complex problems
- Sigmoid: Simpler to understand, prone to vanishing gradients



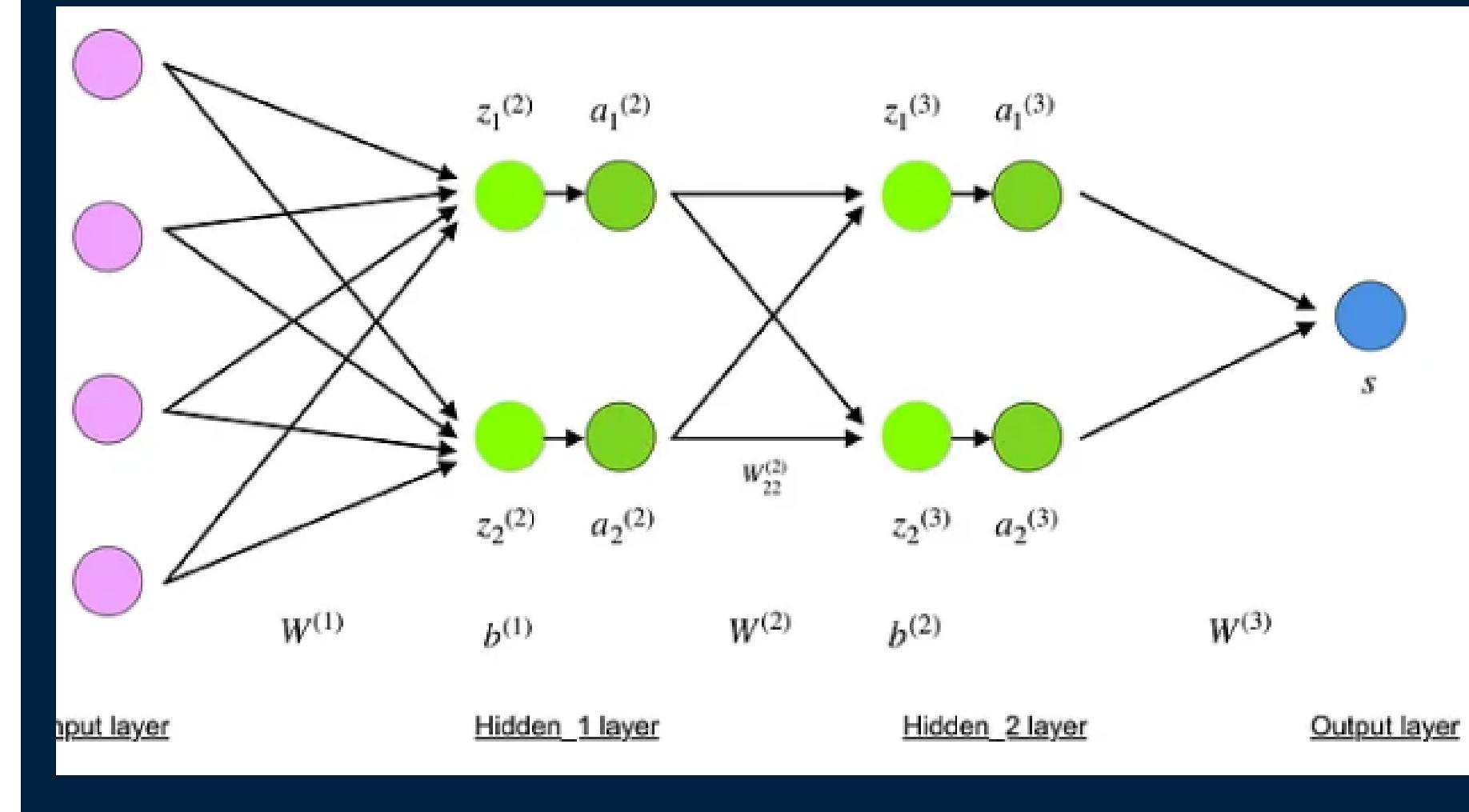
Better, faster Data



Less complex, more
accurate

Our Strategy

Hidden Layer Neurons and Layers



- Number of neurons and hidden layers affect network capacity and complexity
- More neurons: Increased capacity, potential overfitting
- More layers: Enhanced ability to learn intricate relationships



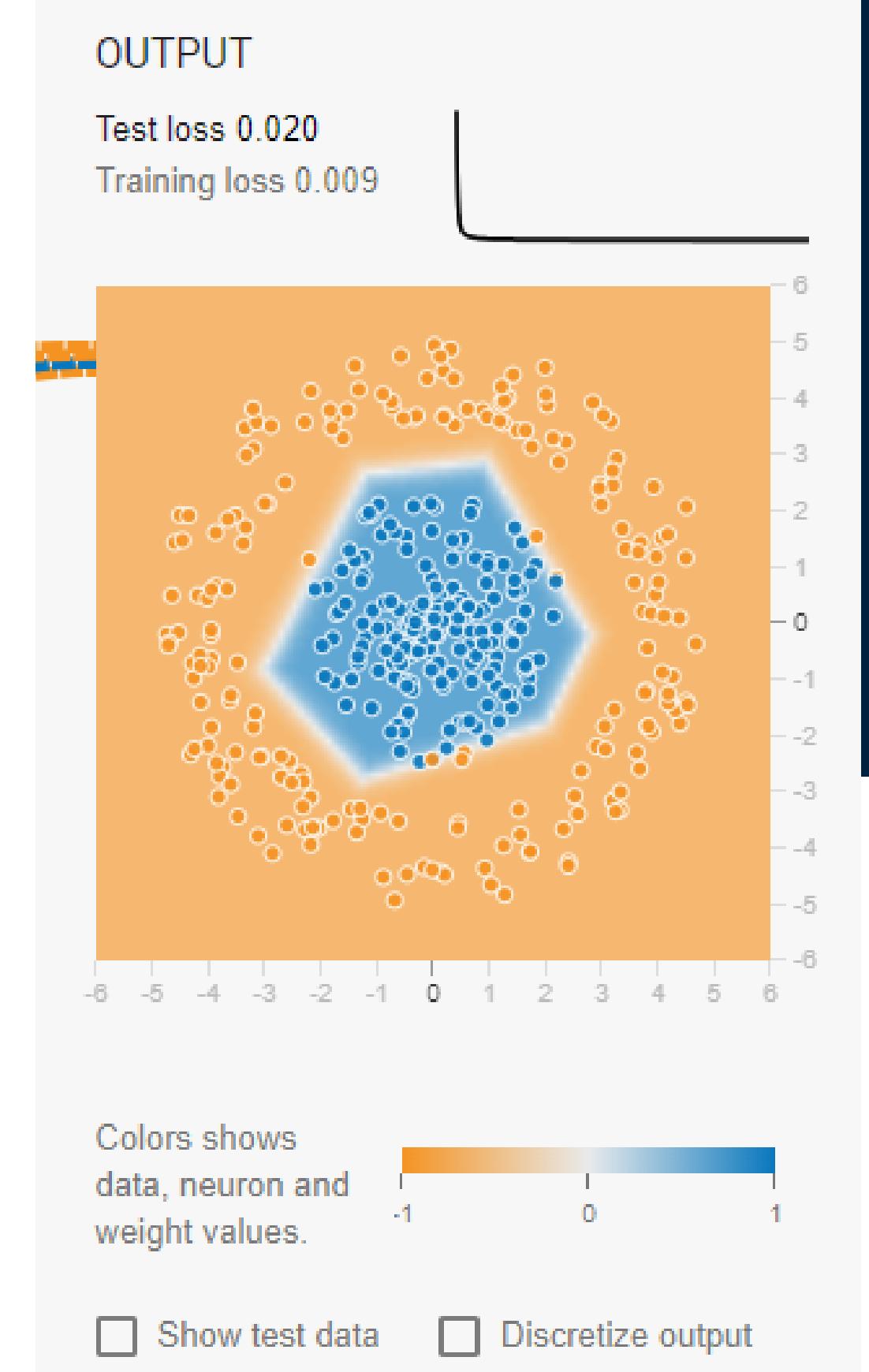


Learning Rate and Convergence

- ◆ Learning rate controls step size taken during weight updates
- ◆ High learning rate: Faster initial learning, potential for divergence
- ◆ Low learning rate: Slower convergence, but smoother

Data Noise and Generalizability

- Data noise simulates real-world imperfections
- Affects network generalizability and robustness
- Networks learn noise patterns alongside actual relationships
- Proper architecture and regularization techniques can improve robustness





THANK YOU