Chapter 1: Deep Learning for Games
$f(x) = x^2 \cdot \sin(x)$
\[ f(x) = x \cdot \sin(x^2) + 1 \]
\[ f'(x) = \sin(x^2) + 2x^2 \cdot \cos(x^2) \]

Points on the graph:
- \((0, 0)\)
- \((1.3552, 2.3076)\)
- \((2.1945, -1.1828)\)
- \((2.8137, 3.8081)\)
Chapter 2: Convolutional and Recurrent Networks
Output: vehicle control

Fully-connected layer

10 neurons

Fully-connected layer

50 neurons

Fully-connected layer

100 neurons

Fully-connected layer

1164 neurons

Flatten

Convolutional feature map

3x3 kernel

64@1x18

Convolutional feature map

3x3 kernel

64@3x20

Convolutional feature map

5x5 kernel

48@5x22

Convolutional feature map

5x5 kernel

36@14x47

Convolutional feature map

5x5 kernel

24@31x98

Normalized input planes

Input planes

3@66x200
Chapter 3: GAN for Games
Linear gradients in a WGAN

Vanishing gradients in regular GAN
Leaky ReLU: $y=0.01x$

Parametric ReLU: $y=ax$

$y=a(e^x-1)$
Chapter 4: Building a Deep Learning Gaming Chatbot

Sequence-to-sequence model

[Diagram of sequence-to-sequence model with text nodes and arrows indicating flow between encoder and decoder.]
C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.17134.286]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\RabbitMQ\rabbitmq_server-3.7.8\sbin>rabbitmq-plugins enable rabbitmq_management
Enabling plugins on node rabbit@DESKTOP-V2J9HRG:
rabbitmq_management
The following plugins have been configured:
  rabbitmq_management
  rabbitmq_management_agent
  rabbitmq_web_dispatch
Applying plugin configuration to rabbit@DESKTOP-V2J9HRG...
The following plugins have been enabled:
  rabbitmq_management
  rabbitmq_management_agent
  rabbitmq_web_dispatch

started 3 plugins.
Chapter 5: Introducing DRL
The diagram illustrates a Markov decision process with states $S_0$, $S_1$, and $S_2$, and actions $a_0$ and $a_1$. The transitions between states are labeled with probabilities, and rewards are indicated by the labels at each transition arrow. The policy shown in the bottom right corner is labeled as (Left) and includes sequences like SFFF, FFFF.
Chapter 6: Unity ML-Agents
Chapter 7: Agent and the Environment
Chapter 8: Understanding PPO
Chapter 9: Rewards and Reinforcement Learning
Number of stacked Vector Observation: 1
Vector Action space type: discrete
Vector Action space size (per agent): [1]
Vector Action descriptions:

2019-02-03 21:38:15.126765: I tensorflow/core/platform/cpu_feature_guard.cc:140] Your CPU supports instructions that this TensorFlow binary was not compiled to use: AVX2
INFO:mlagents.envs:Hyperparameters for the PPO Trainer of brain VisualHallwayLearning:
   batch_size: 64
   beta: 0.01
   buffer_size: 1024
   epsilon: 0.2
   gamma: 0.99
   hidden_units: 128
   lambda: 0.95
   learning_rate: 0.0003
   max_steps: 5.0e5
   normalize: False
   num_epoch: 3
   num_layers: 1
   time_horizon: 64
   sequence_length: 64
   use_recurrent: True
   summary_path: /summarizes/hallway-curriculum-0/VisualHallwayLearning
   memory_size: 256
   use_curiosity: False
   curiosity_strength: 0.01
   curiosity_enc_size: 128
   model_path: /models/hallway-curriculum-0/VisualHallwayLearning

INFO:mlagents.envs:Academy reset with parameters: distance -> 12
Chapter 10: Imitation and Transfer Learning
Chapter 11: Building Multi-Agent Environments
GoalieLearning Brain

StrikerLearning Brain

BlueGoalie Agent  BlueStriker Agent  RedStriker Agent  RedGoalie Agent
Toony Tiny People Demo

FREE

3 user reviews

Add a new tag right now?

Add tags

Demo version of the Toony Tiny characters series

Pack includes:
- Male citizen character x2
- Female citizen character
- Policeman character
- Zombie character
- 3D animation files
Chapter 12: Debugging/Testing a Game with DRL
Chapter 13: Obstacle Tower Challenge and Beyond