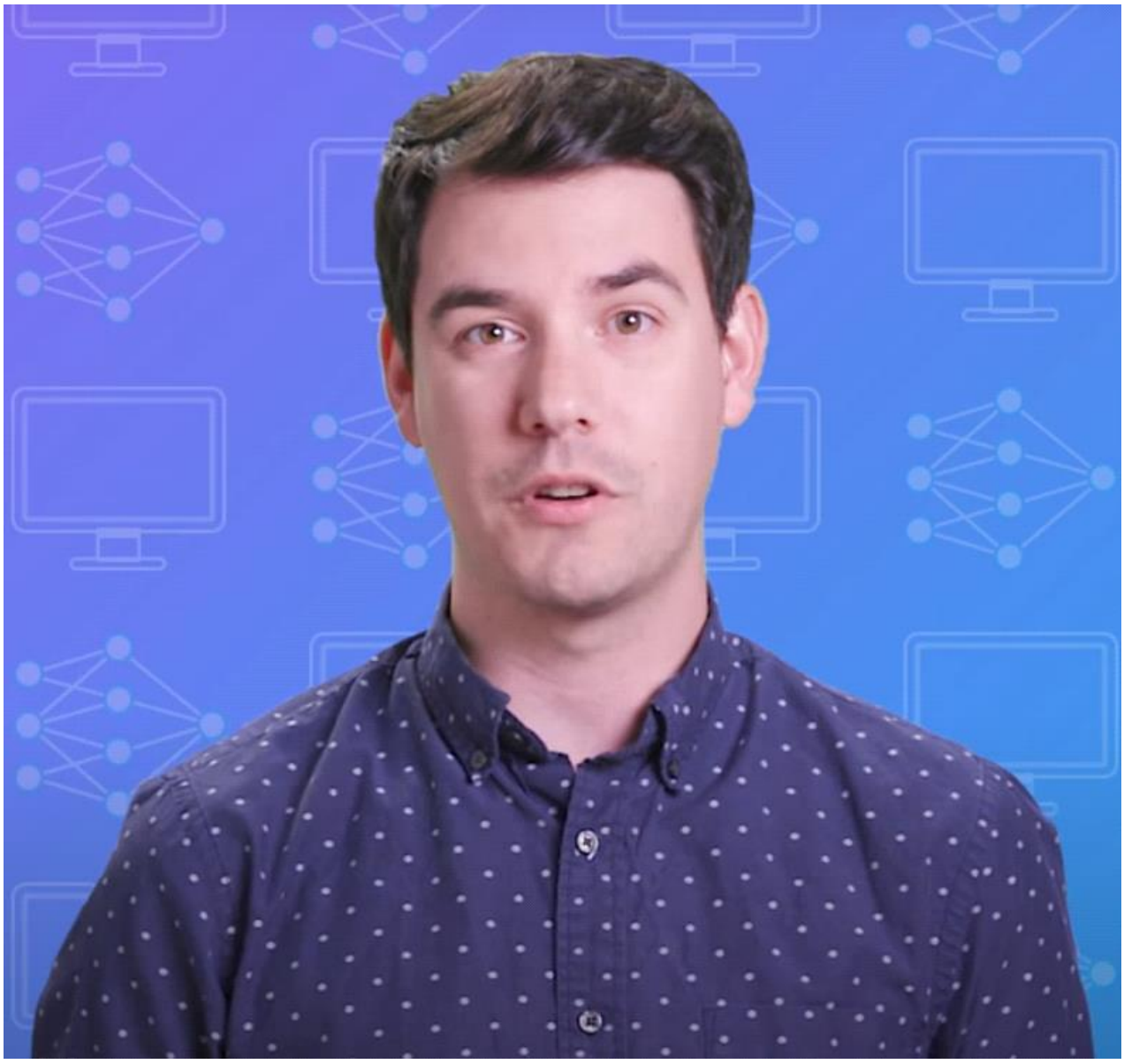
Nanodegree - Lesson 1

Saturday 16 January 2021 12:03



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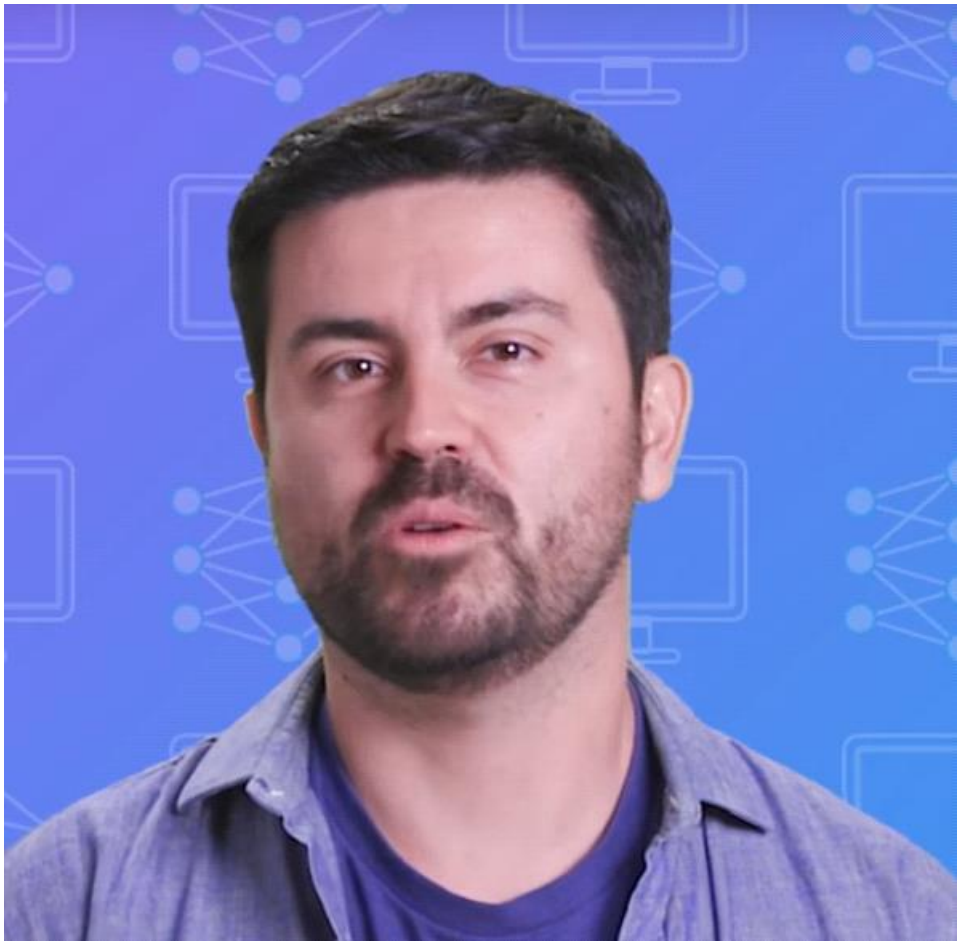
He's the guy behind sql for data analyst.



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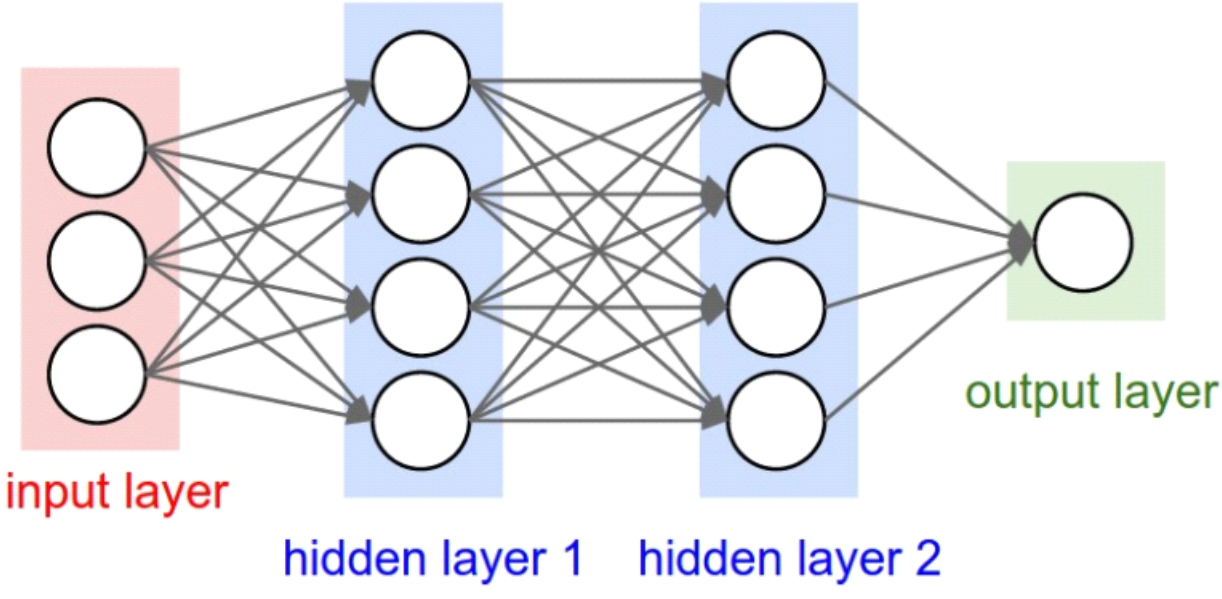
Former googler - pure mathematician

The **first project** is also available this week. In this project, you'll predict bike ridership using a simple neural network.



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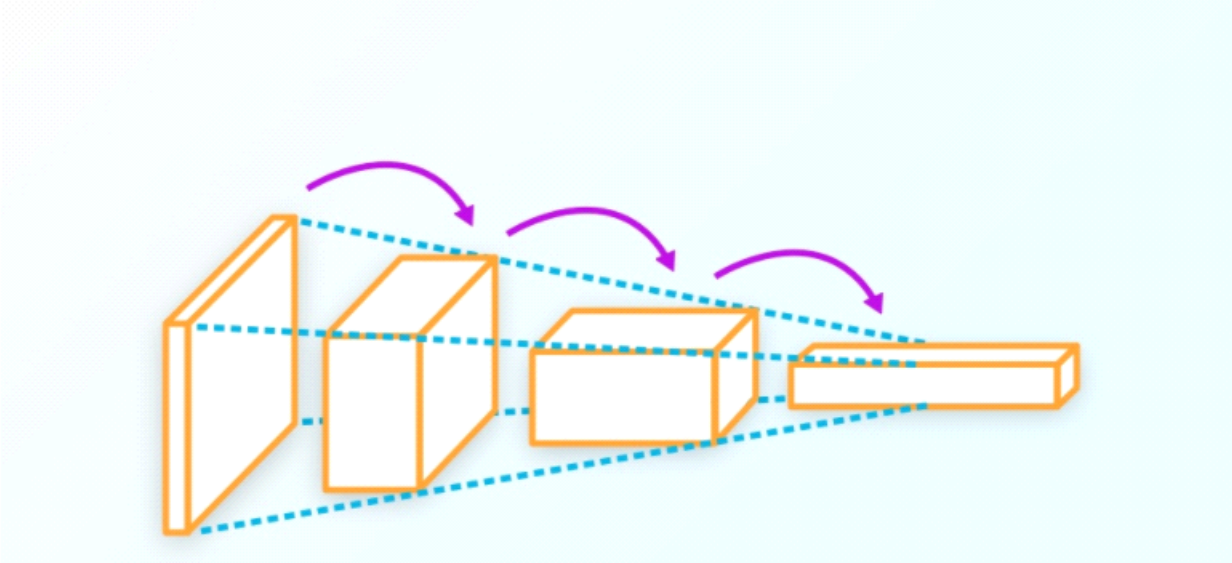
Convolutional Networks

Convolutional networks have achieved state of the art results in computer vision. These types of networks can detect and identify objects in images. You'll learn how to build convolutional networks in TensorFlow.

You'll also get the **second project**, where you'll build a convolutional network to classify dog breeds in pictures.



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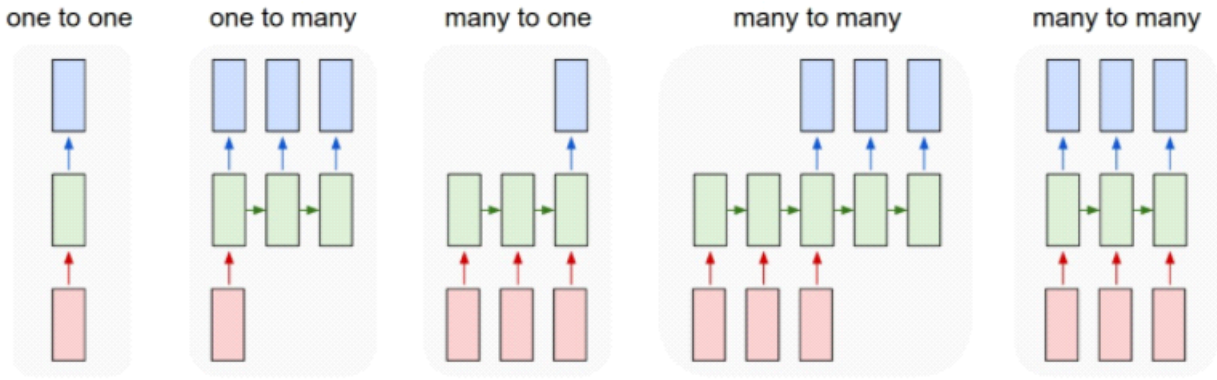
Recurrent Neural Networks

In this part, you'll learn about Recurrent Neural Networks (RNNs)—a type of network architecture particularly well suited to data that forms sequences like text, music, and time series data. You'll build a recurrent neural network that can generate new text character by character.



Then, you'll learn about word embeddings and implement the Word2Vec model, a network that can learn about semantic relationships between words. These are used to increase the efficiency of networks when you're processing text.

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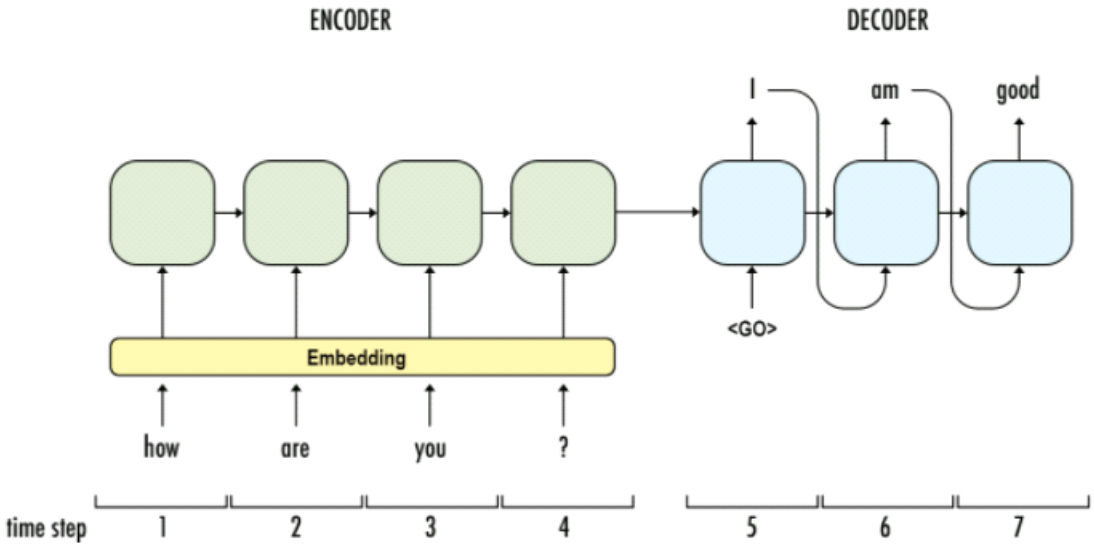
In the **third project**, you'll use what you've learned here to generate new TV scripts from episodes of The Simpson's.



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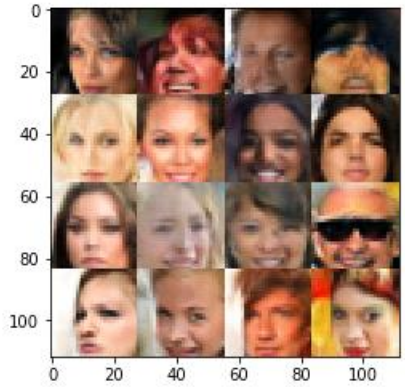
In the **fourth project**, you'll use a deep convolutional GAN to generate completely new images of human faces.



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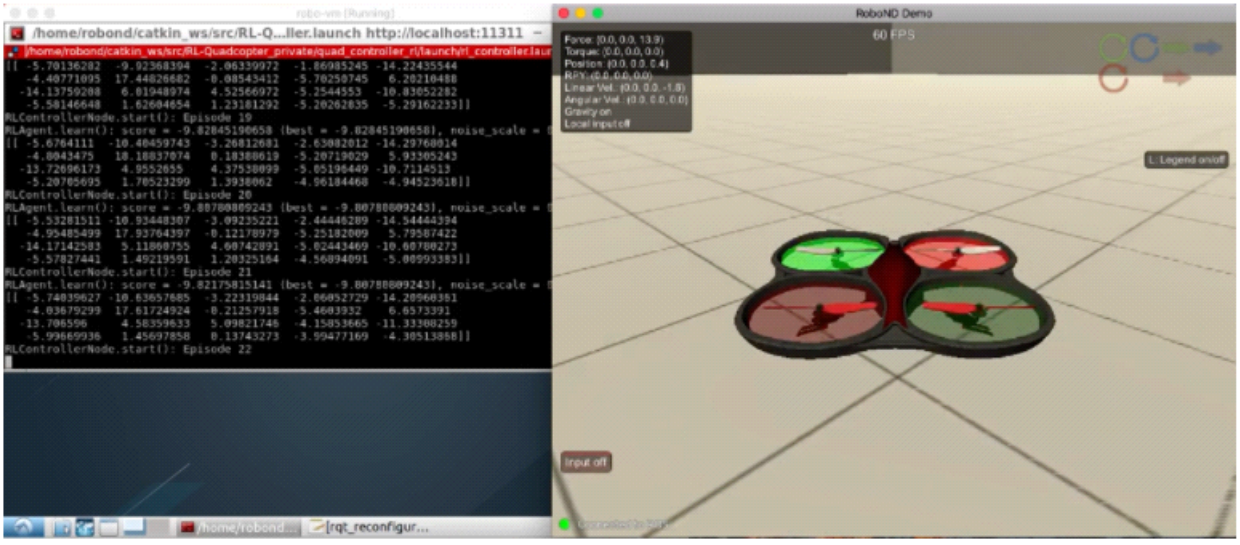
Deep Reinforcement Learning

Deep reinforcement learning has been in the center of some of the most recent advances in artificial intelligence. For example, it was widely used in the construction of AlphaGo by DeepMind.

In this section you'll use deep neural networks to design agents that can learn to take actions in a simulated environment. You'll then apply it to complex control tasks like video games and robotics.



In the **fifth project**, you will design a Deep Reinforcement Learning agent to control several quadcopter flying tasks, including take-off, hover, and landing.

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The things I will learn are:

Neural Network	Predict bike ridership
Convolutional Neural Network (CNN)	Classify dog breeds in pictures
Recurrent Neural Network (RNN)	Generate new text character - predict sentiment of movie reviews - generate new TV scripts from episodes of The Simpson's (project)
Generative Adversial Netorks (GANs)	Generate images - generate completely new images of people (project)
Deep Reinforcement learning	Design agents that learn to take action in a game - control several quadcopter flying tasks (fifth projetc)

Helping resources:

- Python - https://www.udacity.com/course/introduction-to-python--ud1110
- Linear Algebra - https://www.khanacademy.org/math/linear-algebra
- Multivariate calculus - https://www.khanacademy.org/math/multivariable-calculus