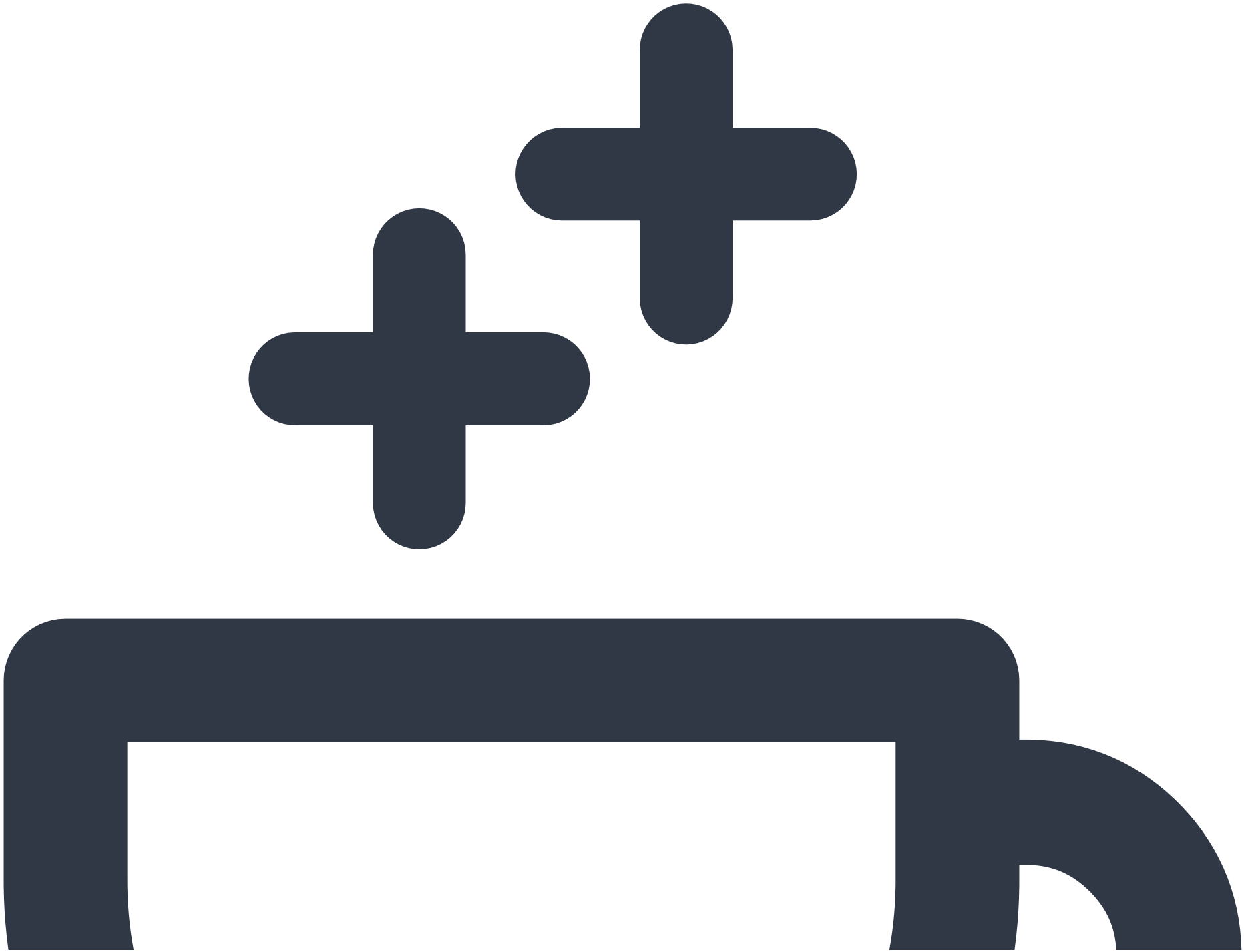

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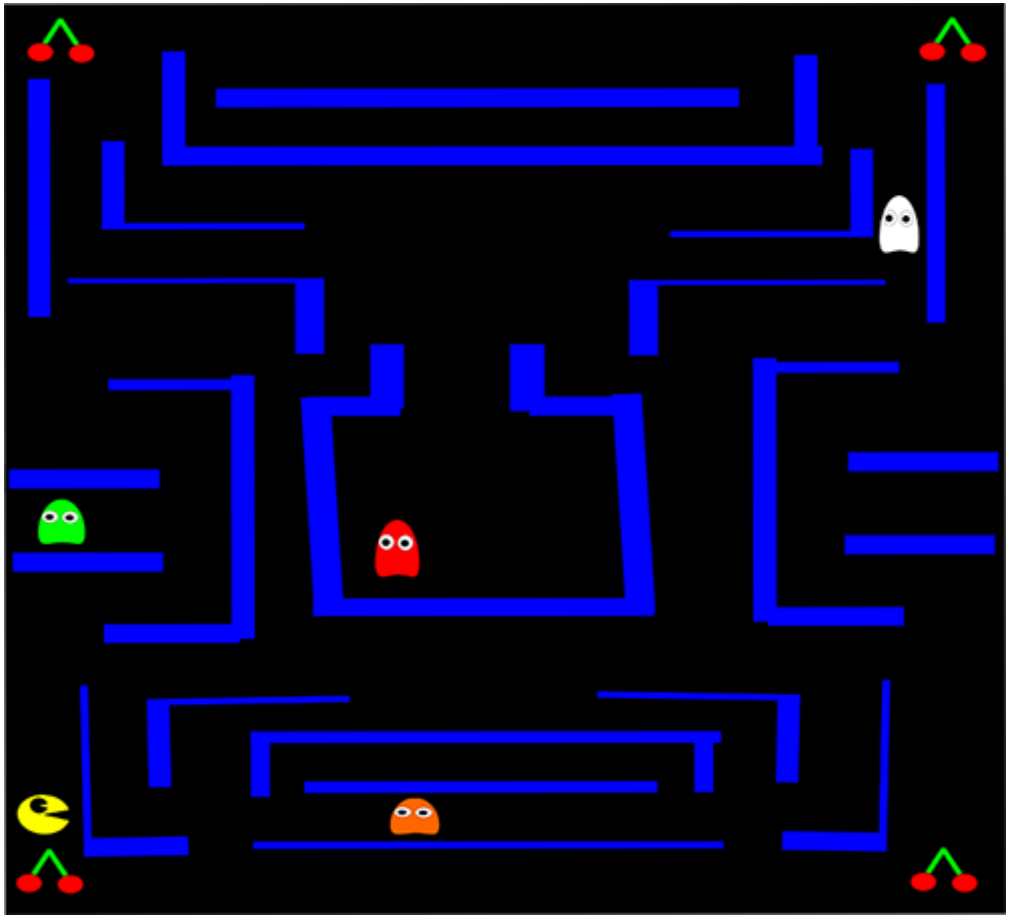
Reinforcement learning with Caffe2

Posted September 14, 2017



Reinforcement learning (RL) is an area of machine learning focused on teaching agents a complex relationship between its action and behavior, and maximizing a reward after a duration in an environment. The agent can be a game avatar, recommender system, notification bot, or variety of other systems that make decisions. The reward could be points in a game, or more engagement on a website. Facebook uses RL in different ways, with one example being when to let page owners know how their pages are performing.

Today, we are pleased to announce **RL_Caffe2** (https://github.com/caffe2/reinforcement-learning-models), **a set of RL libraries built on the Caffe2 platform**. Sharing an open-source fork of our Caffe2 RL framework allows us to give back to the community and also collaborate with other institutions as RL finds more applications in industry.

This project, called RL_Caffe2, contains several RL implementations built on Caffe2 and integrated with OpenAI Gym:

1. **DQN**: An implementation of the Deep Q Learning network as described in https://www.cs.toronto.edu/~vmnih/docs/dqn.pdf.

2. **SARSA**: This is a simplification of DQN that assumes the input data is *on-policy*: the policy generating the data is updating in real-time. The advantage of SARSA is that, during training, we do not need to know what actions are possible. We only need to know the actions taken.

3. **Actor-Critic**: An implementation of the Actor Critic model as described in https://arxiv.org/pdf/1509.02971.pdf

- Github (RL_Caffe2): https://github.com/caffe2/reinforcement-learning-models

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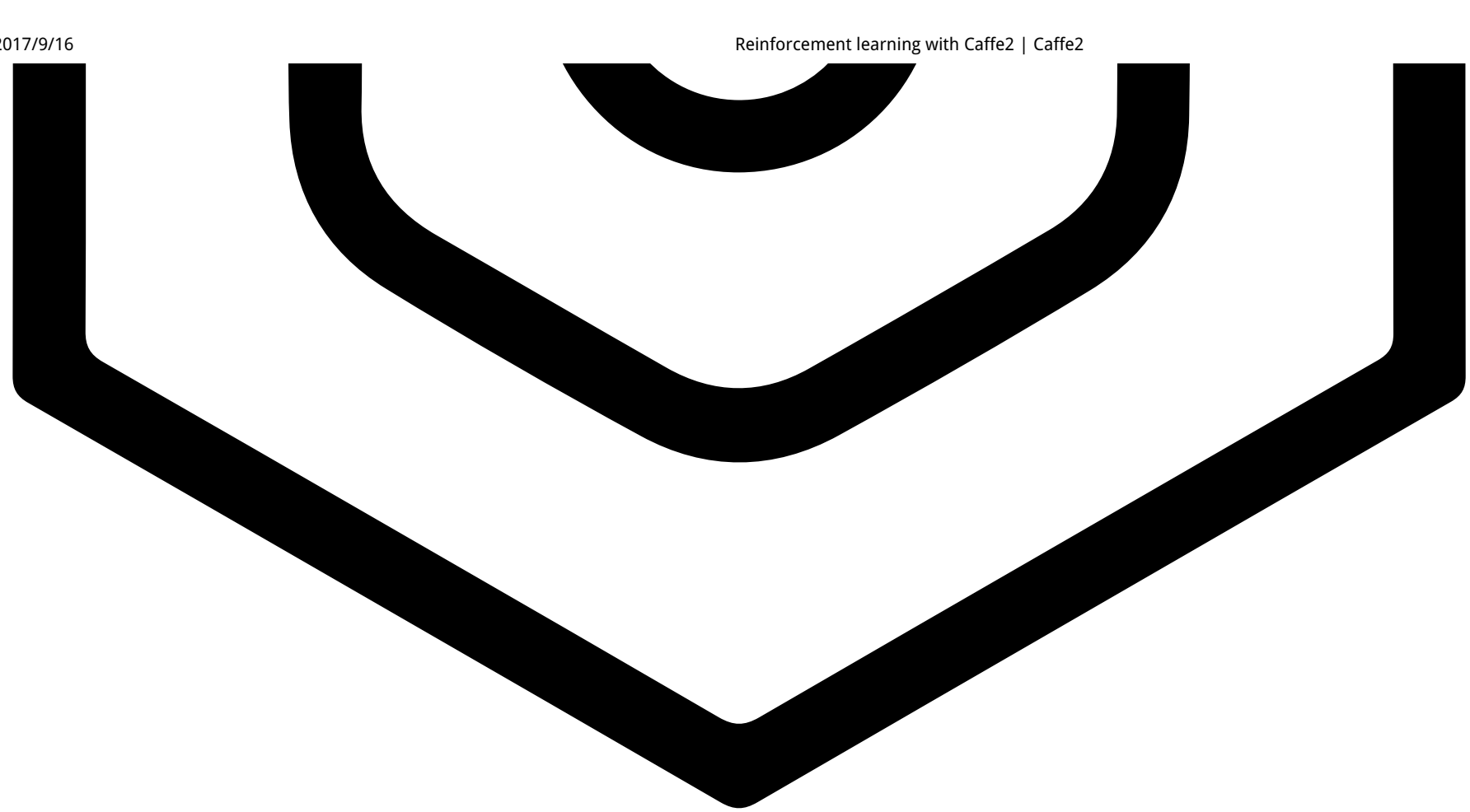

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