

Injecting Machine Learning into the Apprentice Learner Architecture, Project Milestone Report 5 15-400, Spring 2020

Cayden Codel (ccodel)
Project website: www.contrib.andrew.cmu.edu/~ccodel

March 19, 2020

1 Major Changes

We've now moved research meetings online! Since almost all of our work was online anyway (GitHub, Overleaf, Box, etc.), this change won't affect my research group too heavily. But it will be a new experience, navigating this shift.

2 What I've accomplished since last meeting

As stated in the previous milestone, I hoped to accomplish the milestone of **Update RumbleBlocks to interface with the new version of AL**. I now have RumbleBlocks querying the AL server correctly and creating agents. With a few final tweaks, I can get RumbleBlocks to transition to training the agents instead of just giving the agents data for imitation learning, as it is currently doing.

Also since the last meeting, the research group has submitted a paper to a conference. The paper is on error type analysis, as AL's errors while it trains can be classified and can give insight into the accuracy of the model. While I did not directly work on the error type analysis or the paper, I still find hearing about the paper and the related work in the research meetings to be interesting.

3 Milestone progress

As stated above, I've accomplished **Update RumbleBlocks to interface with the new version of AL**. My next step is to **Create an interactive training interface in RumbleBlocks** so that AL may be trained in the game itself, rather than only pulling from previous user data.

4 Surprises

Moving home is certainly a surprise! But other than that, no surprises.

5 Looking ahead

Dr. Harpstead has old interactive trainer code sitting around somewhere. It will be out of date, so I'll have to bring it up to speed with the current versions of AL and Unity. But that will remove a lot of the engineering effort on my part to accomplish the next milestone, highlighted above.

6 Revisions to future milestones

No change in milestones to report. We'll see how the transition to online affects my research, though.

7 Resources needed

No additional resources are required at this time.