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# Assessing RLGraph prototyping capability

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# RLGraph

- Framework for building, executing, and testing reinforcement learning models
- **Better than RLlib**

## Motivation - Reinforcement learning standardization

- RL tasks are challenging to implement, execute, and test
- Less support than other forms of deep learning
- Lack of standardization leads to customization
- Customization increases barrier for new work
- Existing frameworks operate on distinct aspects of RL

# RLGraph

- Common framework for RL tasks
- Separation of concerns
  - Logical component composition
  - Backend graph definition
  - Distributed execution
- Support for multiple backends (e.g. TensorFlow, PyTorch)
- Efficient for prototyping

## Evaluation - prototyping

- Ease of prototyping agent
- Accessibility and applicability for non-RL research and industry
- Comparison with existing RL agents

## Evaluation - 2048

- Well defined
- Easy to simulate and execute actions
- Clear reward signal
- Reasonable size for training interesting network

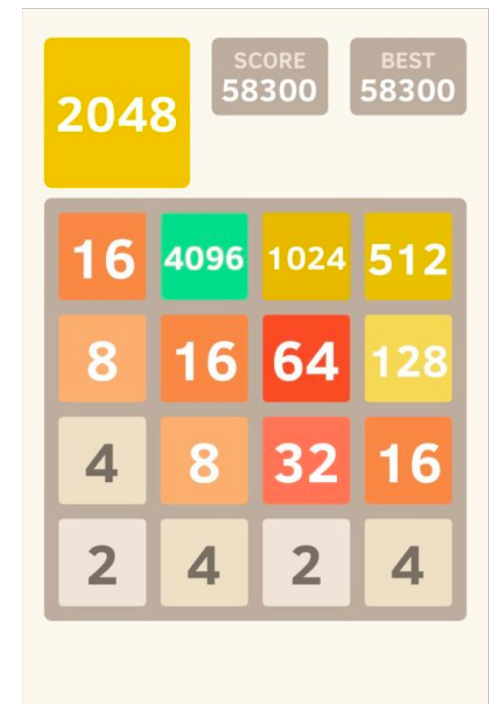


Image from [2]

## Conclusion

- Evaluating RLGraph
- Prototyping capability and performance
- Use in non-RL focused domains
- 2048 target
- Progress – negligible

## References

1. Schaarschmidt, M., Mika, S., Fricke, K., & Yoneki, E. (2018, October 21). RLgraph: Flexible Computation Graphs for Deep Reinforcement Learning. *arXiv.org*.
2. Geeks With Juniors, <https://www.geekswithjuniors.com/play/2048-strategy-to-get-4096-tile-in-the-game.html> Accessed 27/11/2018