

# Learning Complex Skills Requires 100 Million+ Simulated Frames!

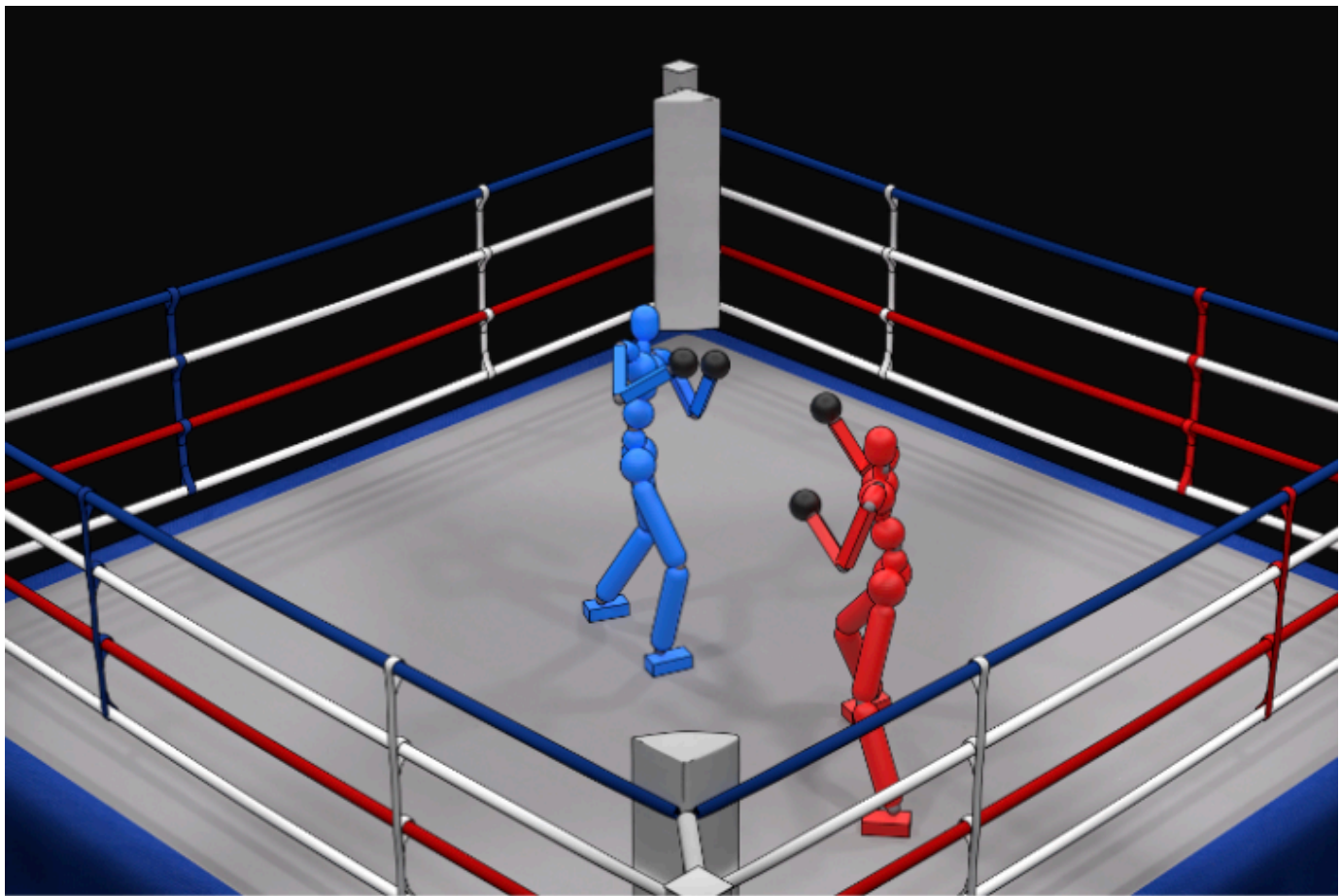
## Gaming



Dota 2 with Large Scale Deep Reinforcement Learning

OpenAI, \*  
Christopher Berner, Greg Brockman, Brooke Chan, Vicki Cheung,  
Przemysław “Psyho” Debiak, Christy Dennison, David Farhi, Quirin Fischer,  
Shariq Hashme, Chris Hesse, Rafal Józefowicz, Scott Gray, Catherine Olsson,  
Jakub Pachocki, Michael Petrov, Henrique Pondé de Oliveira Pinto, Jonathan Raiman,  
Tim Salimans, Jeremy Schlatter, Jonas Schneider, Szymon Sidor, Ilya Sutskever, Jie Tang,  
Filip Wolski, Susan Zhang

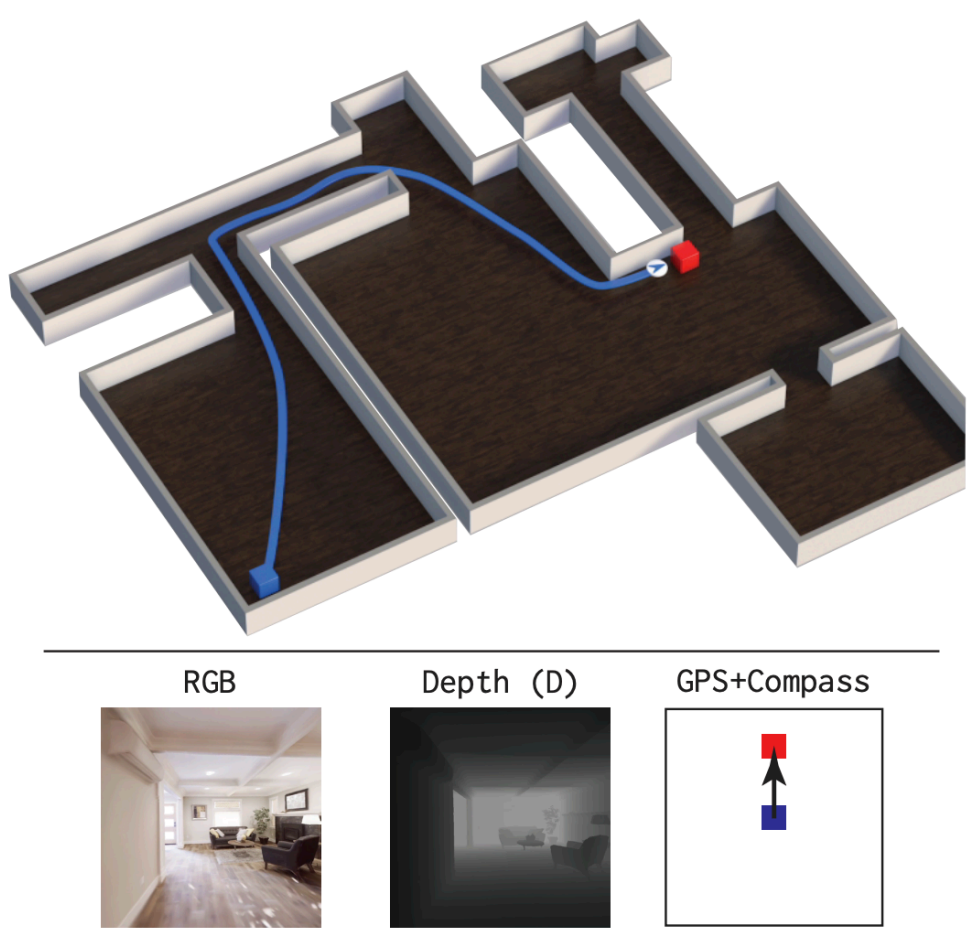
## Animation



Control Strategies for Physically Simulated Characters Performing  
Two-player Competitive Sports

JUNG DAM WON, Facebook AI Research, USA  
DEEPAK GOPINATH, Facebook AI Research, USA  
JESSICA HODGINS, Facebook AI Research, USA

## Robotics



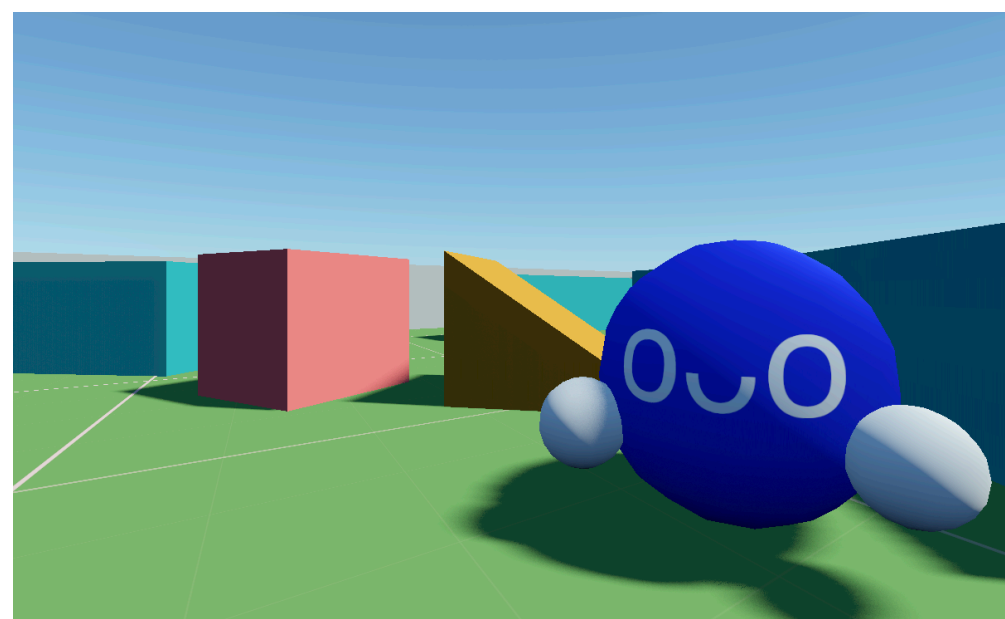
DD-PPO: LEARNING NEAR-PERFECT POINTGOAL  
NAVIGATORS FROM 2.5 BILLION FRAMES

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## High Performance, Fully GPU Driven:

- 32000+ 3D Worlds
- 2 Million FPS
- 1 RTX 4090

## Flexible & Programmable Framework:



**OpenAI Hide & Seek**



**Overcooked AI**

(and more!)

