

# Opportunities for Practical Safety Research in OpenAI Universe

Dario Amodei

OpenAI

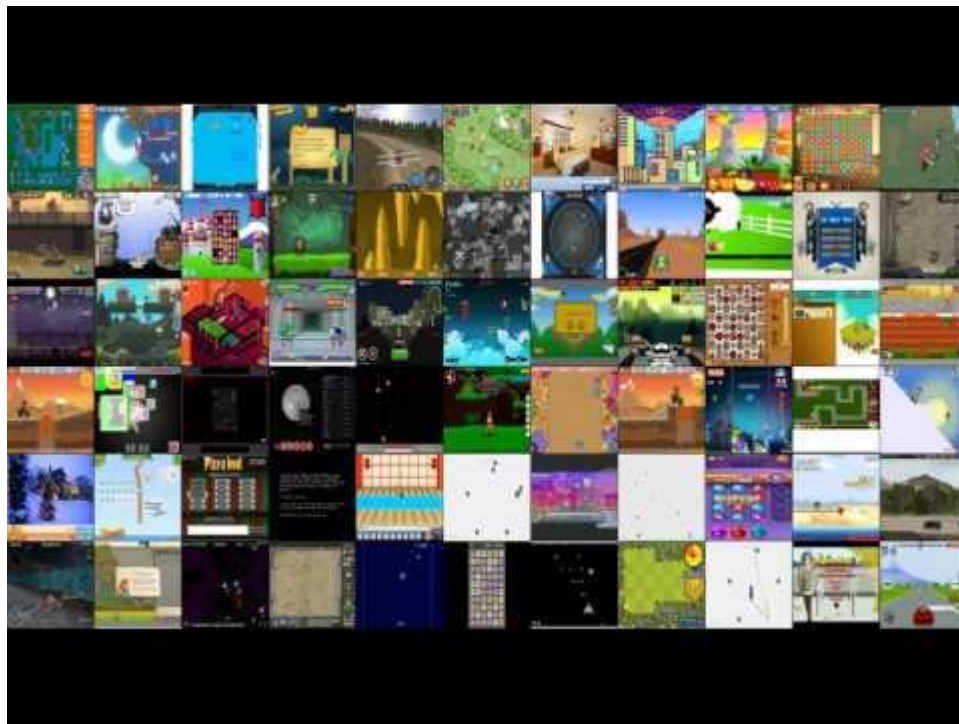
1/4/2017

# Concrete Problems in AI Safety

1. Avoiding Negative Side Effects
2. Reward Hacking
3. Scalable Supervision
4. Safe Exploration
5. Distributional Shift

With **Chris Olah, Jacob Steinhardt, Paul Christiano, John Schulman, Dan Mane**

# OpenAI Universe



# Reward Hacking in the Wild



Blog Post with **Jack Clark**: <https://openai.com/blog/faulty-reward-functions/>

# Safe Exploration



With help from **Andrej Karpathy**

# Distributional Shift

