Wilson Yan

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My goal is to equip artificial intelligence (AI) with a deep understanding of the physical world. As such, my research focuses on designing scalable video models that generate long and complex video, thereby teaching them an understanding of 3D geometry, physics, and the physical properties of objects. Tackling this challenge, I have been fortunate to publish several papers in top venues, presenting novel video models and their applications to decision making agents.

Education

University of California, Berkeley 2020 – Now
PhD Computer Science
Advisor: *Pieter Abbeel*
GPA: 3.89 / 4.00

University of California, Berkeley 2016 – 2020
Bachelor of the Arts in Computer Science and Applied Math
GPA: 3.97 / 4.00

Employment

Google DeepMind, GenAI 06/2023 – 10/2023
Senior Research Scientist
Working on large-scale world models for decision making.

Meta, GenAI 06/2023 – 10/2023
PhD Research Intern
Trained large-scale video generation models and implemented image/video editing methods.
Explored motion representations (optical flow, motion vectors) as model input and for data filtering.
Released a state-of-the-art algorithm for general video editing (see papers).

Perplexity AI 10/2022 – 03/2023
PhD Research Intern
Internship at a fast-growing AI startup.
Developed retrieval and reranking mechanisms to improve generation quality.
Implemented data filtering techniques to construct high-quality finetuning datasets.
Trained and deployed the first in-house LLM to replace OpenAI API inference.

Robot Learning Lab (BAIR) 01/2018 – 03/2020
Research Assistant
Conducted several research projects across reinforcement learning, robotics, and generative modeling.

Papers

World Model on Million-Length Video And Language With RingAttention **Preprint**
H Liu, W Yan, M Zaharia, P Abbeel

Motion-Conditioned Image Animation for Video Editing **Preprint**
W Yan, A Brown, P Abbeel, R Girdhar, S Azadi

Video Prediction Models as Rewards for Reinforcement Learning **NeurIPS 2023**
A Escontrela*, A Adeniji*, W Yan*, A Jain, XB Peng, K Goldberg Y Lee, D Hafner, P Abbeel

Language Quantized AutoEncoders: Towards Unsupervised Text-Image Alignment **NeurIPS 2023**
H Liu, W Yan,, P Abbeel

Temporally Consistent Video Transformer for Long-Term Video Prediction **ICML 2023**
W Yan, D Hafner, S James, P Abbeel

Patch-based Object-centric Transformers for Efficient Video Generation **Preprint**
W Yan, R Okumura, S James, P Abbeel

VideoGPT: Video Generation Using VQ-VAE and Transformers **Preprint**
W Yan*, Y Zhang*, P Abbeel, A Srinivas

Learning Predictive Representations for Deformable Objects Using Contrastive Estimation **CoRL 2020**
W Yan, A Vangipuram, P Abbeel, L Pinto

Learning to Manipulate Deformable Objects without Demonstrations **RSS 2020**
Y Wu*, W Yan*, T Kurutach, L Pinto, P Abbeel

Software

Large World Model **Link** 6900 stars
Open-source 1 million context-length multimodal foundation model.

VideoGPT **Link** 600 stars
Video Generation with VQ-VAE and Transformers.

DeepUL **Link** 600 stars
Course homework and demos for Deep Unsupervised Learning.

Teaching

Introduction to Artificial Intelligence CS 188 Fall 2018, Spring 2019, Fall 2019
TA for Fall 2019 and Spring 2019. Head TA for Fall 2019 (Managing a course of over 400 students).

Deep Unsupervised Learning CS 294-158 Spring 2020, Spring 2024
Co-Head TA for Spring 2020 and Lecturer for Spring 2024 over a graduate course with 100 PhD students.

Reviewing

Neural Information Processing Systems (NeurIPS) 2022, 2023

International Conference on Learning Representations (ICLR) 2023