

Wenlong Huang

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EDUCATION

University of California, Berkeley

Berkeley, CA

B.A. in Computer Science (Major GPA: 4.0)

Aug 2018 - Dec 2021

- Coursework (* indicates graduate-level): *Deep Reinforcement Learning, *Computer Vision, *Natural Language Processing, Machine Learning, Robotics, Computer Graphics, Computational Photography, Algorithms, Database Systems, Artificial Intelligence, Statistics, Computer Architecture, Discrete Math and Probability.

University of California, San Diego

San Diego, CA

Concurrent Enrollment during High School (Major GPA: 3.97)

Jul 2016 - Mar 2018

- Coursework (* indicates graduate-level): *Probabilistic Reasoning and Decision-Making, *Automated Reasoning, *3D Machine Learning, Deep Learning, Probability, Multivariable Calculus, Differentiable Equations.

EXPERIENCE

Berkeley Artificial Intelligence Lab

Berkeley, CA

Undergraduate Researcher

Apr 2019 - Present

- Working at the intersection of Machine Learning, Reinforcement Learning, and Robotics with Professor Pieter Abbeel, Professor Deepak Pathak (CMU), and Dr. Igor Mordatch (Google Brain).

Machine Learning, Perception, and Cognition Lab

San Diego, CA

High School Researcher

Feb 2018 - Feb 2019

- Worked at the intersection of Machine Learning and Computer Vision with Professor Zhuowen Tu.

FunnelFoods

Berkeley, CA

Machine Learning Lead

Apr 2019 - Dec 2019

- Developed a recommendation system to suggest recipes based on receipt scans to promote nutritious eating.

PUBLICATIONS & PRE-PRINTS

Language Models as Zero-Shot Planners: Extracting Actionable Knowledge for Embodied Agents

Under Review for ICLR 2022

Wenlong Huang, Pieter Abbeel, Deepak Pathak, Igor Mordatch

Summary: Large Language Models (e.g. GPT-3, Codex) contain rich actionable knowledge that can be used to plan actions for embodied agents, even without any additional training.

Generalization in Dexterous Manipulation via Geometry-Aware Multi-Task Learning

Under Review for ICRA 2022

Wenlong Huang, Igor Mordatch, Pieter Abbeel, Deepak Pathak

Summary: With appropriate object representation, a multi-task reinforcement learning policy can control an anthropomorphic hand to manipulate 100+ diverse objects and achieve SOTA performance on unseen ones.

One Policy to Control Them All: Shared Modular Policies for Agent-Agnostic Control

The International Conference on Machine Learning (ICML) 2020

Wenlong Huang, Igor Mordatch, Deepak Pathak

Summary: Expressing robots as collections of modular components that share a control policy can lead to zero-shot generalization across diverse unseen robot morphologies. Work covered by IMPORT AI, QBIT AI, and AI TECH TALK.

3D Volumetric Modeling with Introspective Neural Networks

The Association for the Advancement of Artificial Intelligence (AAAI) 2019

Wenlong Huang*, Brian Lai*, Weijian Xu, Zhuowen Tu (* indicates equal contributions)

Summary: Built upon prior Generative via Discriminative Learning and Introspective Learning frameworks, a single neural network can simultaneously perform classification and generation of 3D volumetric shapes.

INVITED TALK

Intel AI Lab: "Learning to Generalize across Objects and Robots"

Nov 2021