

# DUN-MING (BRANDON) HUANG

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bransthre.github.io

## EDUCATION

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**University of California, Berkeley**

B.A., Cognitive Science and Computer Science (Double Major)

*Selection of Courseworks:*

*August, 2021 - May, 2025*

Computer Science GPA: 4.00/4.00

All-Course GPA: 3.99/4.00

## RESEARCH EXPERIENCE

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**Undergraduate Researcher**, Robotics Learning Lab @ Berkeley AI Research

*August 2023 -*

Conducted research in deep unsupervised learning regarding robotics. My current works focus on humanoid robots, from creating benchmarks for standardized assessment of algorithmic performances in humanoid robots to leveraging robot-specific morphologies as inductive biases to augment existing reinforcement learning algorithms.

Supervisor: Dr. Carmelo Sferrazza, Prof. Pieter Abbeel

**Guest Affiliation**, Max Planck Institute for Empirical Aesthetics

*June 2023 -*

I conducted research surrounding several cognitive science topics:

Topic 1: MCMC for Cross-Cultural Psycholinguistics Analysis within and across populations.

Topic 2: Human-in-Loop Annotation and Fine-Tunings of Machine Translations, involving fullstack development of internationalized psychology experiments.

Topic 3: Unsupervised Cross-Domain Alignment of High-Dimensional Psychological Spaces via novel statistical learning methods.

Supervisor: Prof. Nori Jacoby, Computational Auditory Perception Research Group

## PUBLICATION

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1. Carmelo Sferrazza, **Dun-Ming Huang**, Xingyu Lin, Youngwoon Lee, Pieter Abbeel. (2024). HumanoidBench: Simulated Humanoid Benchmark for Whole-Body Locomotion and Manipulation. *Accepted to RSS 2024*.
2. **Dun-Ming Huang**, Pol Van Rijn, Ilia Sucholutsky, Raja Marjeh, Nori Jacoby. (2024). Characterizing Similarities and Divergences in Conversational Tones in Humans and LLMs by Sampling with People. *Accepted to ACL 2024 Main Conference*.
3. Carmelo Sferrazza, **Dun-Ming Huang**, Fangchen Liu, Jongmin Lee, Pieter Abbeel. (2024). Body Transformer: Leveraging Robot Embodiment for Policy Learning. *Accepted to RSS 2024 EARL Workshop*.

## COURSE PROJECTS

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**Diffusion-Based State Sampler for Reinforcement Learning**

U.C. Berkeley

*December 2023*

Devised and implemented a novel sample-efficient and information-rich method for agents to explore their reinforcement learning environment via diffusion models as training data synthesizers.

**Provably Robust Deep Classifiers Against Adversarial Attack**

U.C. Berkeley

*May 2023*

Conducted replication studies of adversarial attack methods against MLPs, and proposed novel initiation patterns for  $L_2$  adversarial attack, reducing dense networks' MNIST-10 accuracy to 0%.

**Student Researcher**

Creative Commons and U.C. Berkeley

*September - December 2023*

Revive Creative Commons's data-driven business analysis projects from its 5-year dormancy, jumpstarting a sustainable documented codebase for coming student researchers to extend upon. Upon public presentation, the project was selected for Data Insight Award by U.C. Berkeley, amongst 50 other competing groups.

**ACADEMIC AND ADMINISTRATIVE EXPERIENCES**

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**Undergraduate Student Instructor**

U.C. Berkeley

*August 2023 - Present*

I have served as a TA for DATA C100: Principles and Techniques of Data Science since Fall 2023.

**Course Coordinator at Computer Science Mentor**

U.C. Berkeley

*August 2023 - May 2024*

A student-run organization that provides guidance and resources through free group tutoring sessions. Co-administrated one of seven branches at this organization with 30+ expected members, impacting 200+ students' learning performances. Hosted cross-branch workshops, and established the first series of public documentation on pedagogical content production.

**Academic Student Employee**

U.C. Berkeley

*January 2022 - December 2023*

Course Reader at DATA C100

January - May 2023

Course Reader at EECS 16A

August - December 2022

**AWARDS AND SCHOLARSHIPS**

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**Best Poster Award at RLL 2024 EARL Workshop***July, 2024***Data Insights Award at Data Science Discovery, U.C. Berkeley***December, 2022***Dean's List, Honors to Date, U.C. Berkeley***available record seen until December, 2022*