DUN-MING (BRANDON) HUANG

dunmingbrandonhuang@berkeley.edu
bransthre.github.io

EDUCATION

University of California, Berkeley *August, 2021 - May, 2025*
B.A., Cognitive Science and Computer Science (Double Major) Computer Science GPA: 4.00/4.00
Selection of Courseworks: All-Course GPA: 3.99/4.00
COMPSCI 189: Introduction to Machine Learning (A+)
EECS 127: Optimization Models in Engineering (A+, PR $\geq$ 98)
COMPSCI 285: Deep Reinforcement Learning (A)

RESEARCH EXPERIENCE

Undergraduate Researcher, Robotics Learning Lab @ Berkeley AI Research *August 2023 -*
In this group, I conduct research regarding unsupervised deep reinforcement learning of humanoid robots, a class of robots greatly enabled by their anatomy. Specifically, in this lab, I conduct research with my colleagues to help humanoid robots learn more efficiently via structural information and algorithmic improvements.

Undergraduate Researcher, Max Planck Institute for Empirical Aesthetics *June 2023 -*
The following topics are studied in my work during this period:
Topic 1: Novel MCMC Methods to Sample Psycholinguistic Objects from Populations and LLMs
Topic 2: Human-in-Loop Annotation and Fine-Tunings of Machine Translations
Topic 3: Unsupervised Cross-Domain Alignment of High-Dimensional Psychological Spaces
Supervisor: Dr. Nori Jacoby, Computational Auditory Perception Research Group

PUBLICATION

1. Carmelo Sferrazza, **Dun-Ming Huang**, Xingyu Lin, Youngwoon Lee, & Pieter Abbeel. (2024). HumanoidBench: Simulated Humanoid Benchmark for Whole-Body Locomotion and Manipulation.

One other manuscript is yet pre-printed and currently submitted to ACL 2024.

RELATED PROJECTS

Diffusion-Based State Sampler for Reinforcement Learning U.C. Berkeley
December 2023
In this course project, we devise and implement a more sample-efficient and information-rich method for agents to explore their reinforcement learning environment by using diffusion models to create synthetic training data.

Provably Robust Deep Classifiers Against Adversarial Attack U.C. Berkeley
May 2023
In this course project, we conducted replication study of adversarial attack methods against dense NNs, and proposed novel initiation patterns for L_2 adversarial attack, reducing dense networks accuracy to 0%.

Student Researcher Creative Commons and U.C. Berkeley
September - December 2023

Revive Creative Common'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, project was selected for Data Insight Award by U.C. Berkeley, amongst 50 other competing groups.

Project LiP: Personal Assistant for Mental Management Self-exploration HCI Project
March-April, June-August 2022
Constructed from scratch a full-stack agent for periodic interventions to prevent students' emotional burnout.
Self-studied native full-stack development for application interface and rendering interventions, and statistical algorithms for predicting user exhaustion, making multiple designs based on HCI literature.

ACADEMIC AND ADMINISTRATIVE EXPERIENCES

Undergraduate Student Instructor U.C. Berkeley
August 2023 - Present
Course: DATA C100- Principles and Techniques of Data Science

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-administrate one of seven branches at this organization with 30+ expected members.
Hosted cross-branch workshops, established public documentations 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

Data Insights Award at Data Science Discovery, U.C. Berkeley *December, 2022*
Recognized for detailed execution of entire data science life cycle amongst 50+ other groups in U.C. Berkeley's Data Science Discovery program.

Dean's List, Honors to Date, U.C. Berkeley *available record seen until December, 2022*

SKILLS

Familiar, or Frequently Used within Last 6 Months
Programming Languages: Python, SQL, LaTeX, HTML, CSS, JavaScript
Notable Tools: Git, Docker, `pandas`, `NumPy`, `scikit-learn`, `matplotlib`, `sns`, `pytorch`

Frequently Used during Previous Projects
Programming Languages: Java, MATLAB, Lisp
Notable Tools: `tkinter`, `keras`