Siddharth Verma

siddharthverma314@gmail.com
siddharthverma314.github.io
(510) 935-5734
1915 2nd Ave, Apt 710, Seattle WA 98101

Education

UC Berkeley 2017–2021

BA Computer Science & Music
GPA 3.965/4.0

Relevant Coursework

- Machine Learning
- Artificial Intelligence
- Probability and Random Processes
- Theoretical Statistics*
- Information Theory and Coding*
- Security
- Operating Systems
- Data Structures
- Computer Architecture
- Algorithms
- Real Analysis

- * indicates graduate level

Honors and Awards

High Distinction 2021

Graduated with High Distinction. Equivalent to magna cum laude.

Phi Beta Kappa 2021

Honor society for top graduates in college of L&S.

EECS Honors 2020

Awarded to the top students in EECS/CS who perform research.

Upsilon Pi Epsilon 2019

Computer Science Honor Society. Was on the board of directors.

Dean's List 2019

Awarded semesterly to the top 10

Skills

Languages: Python, Haskell, Rust, C, Java, Go, PureScript, RISC-V, SQL
Technologies: PyTorch, Tensorflow, Docker, NixOS, Unix/Bash, Git, Google Cloud
Areas: NLP, Reinforcement Learning, Multimodal Learning, Machine Learning, Deep Learning, Neural Networks, Statistics

Experience

Senior Machine Learning Engineer

Square Boston MA Sep 2022–Current

- Trained large language models to assist merchants compose messages to buyers. Reduced overall friction in buyer-seller communication, resulting in improved business outcomes.
- Researching applying instruction finetuning LLMs to incorporate all models into one large multi-task strategy aiming to make it easy to incorporate additional features while increasing overall performance.

AI Resident

Meta (Facebook) Seattle WA Aug 2021–Sep 2022

- Conducted empirical research on the impact of masking rate and masking strategy on Vision-Language pretraining, evaluating the models on various downstream multimodal tasks including VQA and NLVR.
- Investigated the reasoning capabilities of large language models by creating and curating a dataset of reasoning skills, and benchmarking OPT models of different sizes on this dataset.

Machine Learning Intern

Apple Seattle WA Jun 2021–Aug 2021

- Implemented Transformer architecture from Attention is All You Need customized for Apple Silicon hardware.
- Trained the model on English-German translation to replicate results from the paper
- Optimized network architecture to support on-device compute

Undergraduate Researcher at Robotic AI and Learning Lab

Berkeley Artificial Intelligence Research Lab Berkeley CA Jan 2019–May 2021

- Performed cutting-edge research in chatbots, robotics and self-driving cars
- Advised by Prof. Sergey Levine and Prof. Chelsea Finn
- Research Areas: Deep Reinforcement Learning, Multi-Agent RL, Offline RL

Research

Reset-free robotic skill learning via Adversarial RL

Cofirst Author Accepted NeurIPS 2020 Nov 2020

- Designed an RL algorithm to learn skills without manual interventions to reset the environment
- Implemented a Python RL framework using Pytorch and open-sourced it on Github.
- Trained a four-legged robot to walk and subsequently solve a maze using learned skills

Reinforcement Learning based Chatbots using Large Language Models

First Author Accepted NAACL 2022 Apr 2022

- Trained a model to negotiate a price for a product using data from Craigslist.
- Architected an algorithm to fuse Reinforcement Learning with Language Models.
- Implemented various Offline RL algorithms like CQL and EMaQ.

Empirical investigation of masking strategies and rates in Vision-Language Pretraining