# KARA LIU

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## EDUCATION

**Stanford University**                                                                                          2022 - 2027
Ph.D. in Computer Science, AI                                                                   GPA: 4.00/4.00
*Advised by Professor Russ Altman. My research focuses on developing ML methods for tackling biases in healthcare data.*

**University of California, Berkeley**                                                                  2016 - 2020
B.A. in Computer Science                                                                            GPA: 3.98/4.00

*Relevant coursework: Probabilistic Graphical Models, Algorithmic Fairness, Applied Causal Inference Powered by ML and AI\*, Linear Algebra, Machine Structures, Data Structures, Deep Reinforcement Learning, Probability and Random Processes, Real Analysis, Machine Learning, Deep Unsupervised Learning, Artificial Intelligence*

## PUBLICATIONS

**Kara Liu,** Russ Altman, Vasilis Syrgkanis. "Detecting clinician implicit biases in diagnoses using proximal causal inference." At *Pacific Symposium on Biocomputing (PSB)*, 2025.

**Kara Liu,** Russ Altman. "Conditional Generative Models for Synthetic Tabular Data: Applications for Precision Medicine and Diverse Representations." Published in *Annual Reviews of Biomedical Data Science*, 2025.

Srinivasan Sivanandan, Max Salick, Bobby Leitmann, **Kara Liu,** Mohammad Sultan, Navpreet Ranu, Cynthia Vivian Hao, Owen Chen, John Bisognano, Eric Lubeck, Ajamete Kaykas, Eilon Sharon, Ci Chu. "Machine Learning enabled Pooled Optical Screening in Human Lung Cancer Cells." At *Neural Information Processing Systems* (*NeurIPS)* workshop, 2022.

Panagiotis Stanitsas\*, **Kara Liu**\*, Lorn Kategaya, Kelly Haston, Alicia Lee, Shahin Mohammadi, Haoyang Zheng, Francesco Paolo Casale, Navpreet Ranu, Ahmed Sandakli, Pooja Prasad, Owen Chen, Anne Baldwin, Albert Kim, Eilon Sharon, Ajamete Kaykas, Daphne Koller, Matthew Albert. "Machine Learning Methods for Detailed Characterization of TGFβ-induced Signatures in a Large iPSC-derived Hepatic Stellate Cell Cohort." At the *European Association for the Study of the Liver (EASL)*, 2022. Published in the *Journal of Hepatology,* 2022.

**Kara Liu\*,** Thanard Kurutach\*, Aviv Tamar, Pieter Abbeel. "Hallucinative Topological Memory for Zero-Shot Visual Planning." At the *International Conference on Machine Learning (ICML),* 2020.

*Angelina Wang, Thanard Kurutach, **Kara Liu**, Aviv Tamar, Pieter Abbeel.* "Learning Robotic Manipulation through Visual Planning and Acting." At *Robotics: Science and Systems (RSS),* 2019.

## AWARDS & HONORS

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| *Google PhD Fellowship* | 2024 |
| *Stanford Bio-X Fellowship* | 2024 |
| *UC Berkeley B.A. with Highest Distinction (summa cum laude)* | 2020 |
| *NSF GRFP Honorable Mention* | 2020 |
| *UC Berkeley EECS Honors Degree Program* | 2018 - 2020 |
| *UC Berkeley Leadership Award* | 2016, 2018 |

## EXPERIENCE

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**insitro**: ML Engineer III                                                                      2020 - 2022
I established a disease-based axis using a novel unsupervised ML method on microscopy images as part of a multi-million dollar (up-to-one-billion valued) contract investigating liver disease.

**Berkeley Artificial Intelligence Research (BAIR) Lab:** Undergraduate Researcher        2018 - 2020
Advised by Professor Pieter Abbeel and Aviv Tamar. My research explored the intersection of ML methods with robotics, specifically on long-horizon visual planning and representation learning.

**Advanced Science Technology and Research Institute**: Intern                                2018
I investigated generative models and their potential impact in the security sector.

**Languages:** Daily - *Python, Pytorch;* In decreasing order of familiarity - *SQL, Vim, Java, R, Tensorflow, C/C++*

## TEACHING & LEADERSHIP

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**Stanford Science Small Groups:** Group Leader, Mentor                                       2024

**Stanford Engineering Research Introductions:** Research Mentor                    2022 - Present

**University of California, Berkeley:** Teaching Assistant, CS 189 Machine Learning        2019 - 2020

**Medical Technologies at Berkeley:** ML Instructor, Project Lead                             2019