Xinran Liang

📞 510-570-5530 ✉ xinranliang@berkeley.edu ⌂ https://xinranliang.github.io/xinranliang/ ⓞ github.com/xinranliang

Education

Princeton University Sep 2022 - (Expected) May 2027
Ph.D. in Computer Science

University of California, Berkeley Aug 2018 - Present
Bachelor of Arts in Applied Mathematics and Data Science
Domain Emphasis: Statistics and Applied Mathematics Modeling
GPA: 4.0/4.0; **Major GPA**: 4.0/4.0

Research Experience

Robot Learning Lab
Undergraduate Researcher Jun 2021 - Present

- Advisors: Aditi Raghunathan, Kimin Lee, Pieter Abbeel
- Developed a simple, efficient, and scalable exploration method based on epistemic uncertainty in human feedback. Goal is to encourage human-guided exploration different from novelty-based exploration. Improved both sample- and feedback-efficiency of preference-based RL algorithms in complex robot manipulation tasks.
- Investigated perception-action loop of embodied agents and robustness of visual perception model. Goal is better representation learning through interactions with objects from different angles of observations and useful actions generated by RL policy training.

Publications

- **Reward Uncertainty for Exploration in Preference-based Reinforcement Learning**
  <u>Xinran Liang</u>, Katherine Shu, Kimin Lee*, Pieter Abbeel*
  International Conference of Learning Representations (ICLR) 2022.
  NeurIPS 2021 Deep Reinforcement Learning Workshop.

Teaching Experience

University of California, Berkeley
Head Undergraduate Student Instructor: Probability for Data Science (Prob140) Jan 2021 - Present

- Faculty supervisor: Ani Adhikari
- Head uGSI for UC Berkeley's upper division probability course. Teach two weekly problem solving sections.
- Prepare pedagogy guide for course staffs, write problems for assignments and exams, and hold office hours.
- Maintain course website, develop textbook and code library, and hold internal course staff meetings.

Undergraduate Student Instructor: Probability for Data Science (Prob140) Aug 2020 - Dec 2020

- Faculty supervisor: Ani Adhikari
- uGSI for UC Berkeley's upper division probability and statistics course.
- Teach two problem solving weekly sections, hold office hours, review assignments, and grade exams.

Undergraduate Student Instructor: Principles and Techniques of Data Science (Data100) May 2020 - Aug 2020

- uGSI for UC Berkeley's upper division data science course.
- Develop assignments and lecture materials, write and grade exam questions, and monitored technology infrastructures.

Selected Coursework

- Data102 Data, Inference, and Decisions (IP)
- CS189 Machine Learning (A)
- EECS127 Optimization Models in Engineering (A+)
- Prob140 Probability for Data Science (A+)
- Stat150 Stochastic Processes (A+)
- CS285 Deep Reinforcement Learning (self-study)
- CS170 Efficient Algorithms (A)
- CS61B Data Structures (A+)
- CS61C Machine Structures (A)
- Math104 Real Analysis (A+)
- Math110 Linear Algebra (A)
- CS294 Deep Unsupervised Learning (self-study)

Technical Skills

- Language and Tools: Python, Java, PyTorch, C, SQL, Git, Linux