ANNA L. TRELLA

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annatrella.github.io

INTERESTS

Theoretical and applied aspects of online reinforcement learning (RL) and Bayesian machine learning (ML)

EDUCATION

Ph.D. Computer Science, Harvard University

2020 - Present

GPA 4.0. Jointly advised by Professors Finale Doshi-Velez and Susan A. Murphy. Coursework on Bayesian machine learning, reinforcement learning, interpretable and explainable machine learning, probability.

B.A. Applied Mathematics, University of California, Berkeley

2014 - 2018

GPA 3.71. Coursework on machine learning, artificial intelligence, algorithms & theory, linear algebra, numerical analysis, etc.

EXPERIENCE

Applied Scientist Intern (RL & Large Language Models), Amazon

Summer 2023

Research Scientist Intern (Data Science & Machine Learning), Etsy

Summer 2021

Technical Lead: Software Development Engineer, Amazon

2018 - 2020

AWARDS

Derek Bok Certificate of Distinction in Teaching, Harvard University. 2022

RLDM Student Travel Fellowship, Brown University. 2022

EECS Outstanding Graduate Student Instructor Award, UC Berkeley. 2018

Dean's Honors List, UC Berkeley. 2016

TEACHING

Graduate Teaching Fellow, Harvard University

CS 181, Machine Learning. 2022 (4.95/5.00 on student evaluations)

Teaching Assistant, University of California, Berkeley

CS 61C, Machine Structures. 2017, 2018 (4.91/5.00 on student evaluations)

SKILLS

Python, Pytorch, NumPy, Git, PyMC3, Java, Amazon Web Services (AWS), Xcode, React Native, Objective-C, JavaScript, Kotlin

PUBLICATIONS

Anna L. Trella, Walter Dempsey, Finale Doshi-Velez, Susan A. Murphy. "Non-Stationary Latent Auto-Regressive Bandits." *In Submission*.

Anna L. Trella, Kelly W. Zhang, Inbal Nahum-Shani, Vivek Shetty, Iris Yan, Finale Doshi-Velez, Susan A. Murphy. "Monitoring Fidelity of Online Reinforcement Learning Algorithms in Clinical Trials." *In Submission*.

Anna L. Trella, Ziming Li, Jinseok Nam. "Improving Personalization in Text Generation: A Two-Level Fine-Tuning Approach for LLMs." *In Submission*.

Inbal Nahum-Shani, Zara M. Greer, **Anna L. Trella**, Kelly W. Zhang, Stephanie M. Carpenter, Dennis Ruenger, David Elashoff, Susan A. Murphy, Vivek Shetty. "Optimizing an adaptive digital oral health intervention for promoting oral self-care behaviors: Micro-randomized trial protocol." *Contemporary Clinical Trials, 2024*.

Anna L. Trella, Kelly W. Zhang, Inbal Nahum-Shani, Vivek Shetty, Finale Doshi-Velez, Susan A. Murphy. "Reward Design For An Online Reinforcement Learning Algorithm Supporting Oral Self-Care." *Proceedings of the 37th AAAI Conference on Artificial Intelligence (AAAI-23), 2023*. **(Selected for an Oral)**

Anna L. Trella, Kelly W. Zhang, Inbal Nahum-Shani, Vivek Shetty, Finale Doshi-Velez, Susan A. Murphy. "Designing Reinforcement Learning Algorithms for Digital Interventions: Pre-Implementation Guidelines." *Algorithms, 2022*.

INVITED TALKS

Online Reinforcement Learning Algorithms for Digital Interventions

Two Sigma Headquarters, PhD Symposium. 2023

Designing Reinforcement Learning Algorithms for Mobile Health

University of Pennsylvania, Ivy Collective Engineering Symposium. 2022

mHealthHUB, mDOT Center Webinar Series. 2022

RLDM Conference, Oral Presentation (top 7% of accepted papers). 2022

Oralytics: An Online Reinforcement Learning Algorithm Supporting Oral Self-Care

Harvard University, Guest Lecturer for STAT 234: Sequential Decision-Making. 2022

PATENTS

Miguel Roman Durazo Almeida, Thanhthanh Anh Tran, Jongun Jung, Rohin Patel, **Anna L. Trella**, Tarmandeep Toor, Shih-Ta Peng. *Item Identification based on receipt image*. U.S. Patent 11,257,049, filed January 31, 2020, and issued February 22, 2022.

LANGUAGES & HOBBIES

English (native), Mandarin Chinese (native), Spanish (proficient), Japanese (limited proficient)

Figure Skating (Senior Moves in the Field Gold Medalist), Cheerleading (NCA National Champion, 2x California State Champion), Piano (CM Level 6)