Aishwarya Mandyam

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Education

Stanford University, Stanford CA
- PhD Computer Science, Advised by Barbara Engelhardt and Emma Brunskill   09/2022-

Princeton University, Princeton NJ
- PhD Computer Science, Advised by Barbara Engelhardt (left program)   08/2020–05/2022

University of Washington, Seattle WA
- M.S Computer Science   09/2019–06/2020
  - Advised by Luis Ceze, Jeff Nivala, and Kevin Jamieson
- B.S Computer Science, B.A Philosophy   09/2015–06/2019

Research Interests

Reinforcement learning, machine learning for healthcare, Bayesian statistics

Peer Reviewed Publications

"Kernel Density Bayesian Inverse Reinforcement Learning", **Aishwarya Mandyam**, Didong Li, Diana Cai, Andrew Jones, Barbara E. Engelhardt. *To appear in Transactions of Machine Learning Research (TMLR)*

"Adaptive Interventions with User-Defined Goals for Health Behavior Change", **Aishwarya Mandyam**, Matthew Joerke, Barbara Engelhardt, Emma Brunskill. *Conference on Health Inference and Learning (CHIL) 2024*.

"Compositional Q-learning for electrolyte repletion with imbalanced patient sub-populations," **Aishwarya Mandyam**, Andrew Jones, Jiayu Yao, Krzyzstof Laudanski, Barbara E. Engelhardt. *Proceedings of the 3rd Machine Learning for Health symposium 2023*, **Best paper award honorable mention**

"Guiding Efficient, Effective, and Patient-Oriented Electrolyte Replacement in Critical Care: An Artificial Intelligence Reinforcement Learning Approach", Niranjani Prasad*, **Aishwarya Mandyam***, Corey Chivers, Michael Draugelis, C. William Hanson III, Barbara E. Engelhardt, Krzysztof Laudanski. *Journal of Precision Medicine*

"COP-E-CAT: Cleaning and Organization Pipeline for EHR Computational and Analytic Tasks", **Aishwarya Mandyam**, Jeff Soules, Elizabeth Yoo, Krzyzstof Laudanski, Barbara E. Engelhardt. *ACM Conference on Bioinformatics, Computational Biology, and Health Informatics 2021*

"Porcupine: Rapid and robust tagging of physical objects using nanopore-orthogonal DNA strands" Katie Doroschak, Karen Zhang, Melissa Queen, **Aishwarya Mandyam,** Karin Strauss, Jeff Nivala, Luis Ceze. *Nature Communications 2020*. **UW Madrona Prize Runner-up**

Short Papers/Posters

"Adaptive Interventions with User-Defined Goals for Health Behavior Change", **Aishwarya Mandyam**, Matthew Joerke, Barbara Engelhardt, Emma Brunskill. *Machine Learning for Health symposium 2023* findings track.

"Estimating Influential Samples in the Fragile Families Challenge", **Aishwarya Mandyam**, Siena Dumas Ang, Barbara E. Engelhardt. *NeurIPS Women in Machine Learning Workshop 2020*

"Molecular Matchmaker: selecting peptide-aptamer binding pairs using machine learning", **Aishwarya Mandyam**, Yuhao Wan, Luis Ceze, Jeff Nivala, Kevin Jamieson. Machine Learning in Computational Biology 2020, **Invited for Oral Presentation**

"Reducing Identification Time in a Molecular Tagging System", **Aishwarya Mandyam**, Katie Doroschak, Karen Zhang, Melissa Queen, Karin Strauss, Jeff Nivala, Luis Ceze. *Grace Hopper Conference 2019*, **ACM Student Research Award 2nd Place**

Under Review

"CANDOR: Counterfactual ANnotated DOubly Robust off-policy evaluation", **Aishwarya Mandyam**, Shengpu Tang, Jiayu Yao, Jenna Wiens, Barbara E. Engelhardt.

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Work Experience

Amazon Reinforcement Learning, *Applied Science Intern*   *08/2024-11/2024*
Advised by Dean Foster, Omer Gottesman
Gladstone Institutes, *Research Associate*   09/2021 – 09/2022
Allen Institute for Artificial Intelligence, *Research Intern*   03/2019 – 09/2019
Advised by Vu Ha, Oren Etzioni
- Implemented and analyzed custom computer vision models to detect veins and arteries in ultrasound videos

Sage Bionetworks, *Research Engineering Intern*   09/2018 – 03/2019
- Designed and developed an Android app feature to measure cardiorespiratory fitness to be used in a National Institute of Health study with 1 million users.
- This feature teaches users how to measure their heart rate using a smartphone camera and provides feedback about their measurement using signal processing.

Microsoft, *Software Engineering Intern*, Xbox   06/2018 – 09/2018
- Designed and implemented a Convolutional Neural Network to detect highlight clips from game streams to enable gamers to share the best parts of their gameplay sessions, increasing the visibility of the Xbox gaming environment.

Microsoft, *Software Engineering Intern*, Xbox   06/2017 – 09/2017
- Built an end-to-end prototype that allows users to control the Xbox using Amazon Alexa and Cortana Assistant. Prototype was expanded to create a shipped feature and covered in The Verge, TechCrunch, IGN, Geekwire.

Microsoft, *Explorer Intern*, Outlook   06/2016 - 09/2016
Expedia, *Software Developer Apprentice*, Cruise Team   06/2015 - 08/2015

Awards + Fellowships

Stanford Data Science Scholars Fellowship (2024): Awarded to a select group of current Stanford PhD students who contribute to data-intensive science.
Stanford School of Engineering Fellowship (2022): Awarded a 1-year fellowship to cover rotations.
ACM Student Research Competition Award (2019): 2nd place in the undergraduate research category.
Class of 2019 Allen School Undergraduate Service Award (2019): The Allen School service award recognizes 2 students in every graduating class for outstanding service contributions to the Allen School.
Husky 100 (2018): The Husky 100 recognizes 100 out of 40,000 UW undergraduate and graduate students who are making the most of their time at the UW.

Invited Talks

Harvard University, *DtAK lab*   *10*/2024
University of Michigan AI Symposium, *Lightning Talk*   *10*/2024
University of Michigan, *MLD3 lab*   *10*/2024
New York Academy of Sciences, *Machine Learning Symposium*   *10*/2024

Service

Reviewer *NeurIPS, Reinforcement Learning Conference (RLC), Machine Learning for Healthcare Symposium (ML4H), Conference on Health Informatics and Learning (CHIL)*   *2021-*

Machine Learning for Health Symposium (ML4H) *Organizer*   2024
Stanford-Berkeley Women's Research Meetup for Women in CS and EE *Organizer* 2024