Sandesh Adhikary

503-317-2104
adhikary@cs.washington.edu
sandeshadhikary.github.io

Education

2019–Present **PhD Student**, *Computer Science and Eng., University of Washington (GPA: 3.89)*.

2017–2019 **PhD Student**, *Computational Science and Eng., Georgia Tech (GPA: 4.0)*. *Transferred to UW* .

2011–2015 **Bachelors of Arts**, *Physics, Reed College (GPA: 3.65)*,
Honors: Phi Beta Kappa, Academic Commendation (2012, 2013, 2015) .

Research

2021-Present **Policy Composition in Multi-Objective Decision Making**

Developing a structured class of policy composition strategies to interpolate between reinforcement learning policies learned for multiple potentially conflicting objectives.

Extended Abstract **Adhikary, S.** and Boots, B., (2022). Modular Policy Composition with Policy Centroids. Multidisciplinary Conference on Reinforcement Learning and Decision Making (RLDM)
Honors: RLDM Travel Award (Declined)

2020-2022 **Geometry-Aware Sampling with Kernel Herding**

Extended the kernel herding algorithm to the task of drawing samples from probability distributions over data-spaces corresponding to various structured Riemannian manifolds routinely encountered in robotics.

Selected Publications **Adhikary, S.** and Boots, B., (2022). Sampling over Riemannian Manifolds with Kernel Herding. IEEE International Conference on Robotics and Automation (ICRA)
Honors: Best Paper, R:SS (2021) Workshop on Geometry and Topology in Robotics

2019-2021 **Quantum-Inspired Probabilistic Modeling**

Established equivalencies between probabilistic models from quantum tensor networks, stochastic processes, and weighted automata. Developed an approach to learning hidden quantum Markov models using their parameterization on the Stiefel manifold.

Selected Publications **Adhikary, S.***, Srinivasan S.*, Miller J., Rabusseau G., & Boots B. (2021) Quantum Tensor Networks, Stochastic Processes, & Weighted Automata. International Conference on Artificial Intelligence and Statistics (AISTATS).
Adhikary, S.*, Srinivasan, S.*, Gordon, G. & Boots, B. (2020) Expressiveness and Learning of Hidden Quantum Markov Models. International Conference on Artificial Intelligence and Statistics (AISTATS).

2017–2019 **Predicting Post-transplant Outcomes in Renal Transplant Patients**

Collaborated with clinical experts to develop machine learning models predicting transplant failures, readmissions, and mortality in renal transplant patients.

Selected Publications Hogan, J., Arenson, M. D., **Adhikary, S.**, Li, K., Zhang, X., Zhang, R., Valdez, J. N., Lynch, R. J., Sun, J., Adams, A. B., & Patzer, R. E. (2019). Assessing Predictors of Early and Late Hospital Readmission After Kidney Transplantation. Transplantation Direct 5(8)

Teaching

Oct 2020–Dec 2020 **Teaching Assistant** *CSE599: Reinforcement Learning*, University of Washington

Dec 2018–May 2019 **Teaching Assistant** *CS4002: Robots and Society*, Georgia Tech.

Aug 2017–Dec 2017 **Teaching Assistant** *CS4001: Computing, Society, and Ethics*, Georgia Tech.

Skills

Domains Machine Learning, Reinforcement Learning, Probabilistic Modeling

Programming Python, PyTorch, R