Sandesh Adhikary

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

Education

2019–Present	**PhD Candidate**, *Computer Science and Engineering, University of Washington*.
2017–2019	**PhD Student**, *Computational Science and Engineering, Georgia Tech*.
2011–2015	**Bachelors of Arts**, *Physics, Reed College* ,
	Honors: Phi Beta Kappa, Academic Commendation (2012, 2013, 2015) .

Research

2021-Present **Policy Composition in Multi-Objective Reinforcement Learning**

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

2020-Present **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.

Papers **Adhikary, S.**, Thompson, J., and Boots, B., (2021). Sampling over Riemannian Manifolds with Kernel Herding. Robotics: Science and Systems (R:SS) Workshop on Geometry and Topology in Robotics. (Full paper under review at ICRA 2022)
Honors: Awarded Best Workshop Paper

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

Established formal equivalencies between various probabilistic models from quantum tensor networks, stochastic processes, and weighted automata. Additionally, developed a new approach to learning hidden quantum Markov models that exploits its parameterization on the Stiefel manifold.

Papers Srinivasan, S., **Adhikary, S.**, Miller, J., Pokharel, B., Gordon, G. & Boots, B. (2021), Towards a Trace-Preserving Tensor Network Representation of Quantum Channels, Second Workshop on Quantum Tensor Networks at NeurIPS
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 2020).

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.

Papers 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.