



# ELECTRICAL & COMPUTER ENGINEERING

UNIVERSITY of HAWAI'I at MĀNOA™

## Unveiling Recent Advancements in Learning for Control and Filtering

<b>Speaker</b>	Dr. Shahriar Talebi
<b>Date</b>	Thursday, February 22, 2024
<b>Time</b>	11:00 AM-12:00 PM
<b>Location</b>	Holmes Hall 389
	<i>Hybrid presentation- Zoom link available</i>
	<a href="https://hawaii.zoom.us/j/94306869982">https://hawaii.zoom.us/j/94306869982</a>
	Meeting ID: 943 0686 9982 (no passcode)

### Abstract

Learning efficient decision-making in interaction with critical dynamical systems represent a paradigm shift in optimizing system performance and feedback synthesis. By harnessing vast amounts of data, machine learning and control techniques enable adaptive strategies that dynamically adjust to changing conditions in real-time, facilitating informed decision-making. Through continuous learning and adaptation, these systems effectively navigate complex and uncertain environments, offering powerful tools for achieving desired outcomes across various domains, from robotics and manufacturing to healthcare and finance. This talk showcases some of the recent advancements in this field, including tailored policy optimization algorithms leveraging Riemannian geometry for efficient convergence rates, model-free approaches of crafting distributed feedback mechanisms for large-scale networked systems, and learning optimal filtering policies amid noise uncertainties.

### Biography

Shahriar Talebi is a postdoctoral fellow at Harvard University. He received his Ph.D. degree in control theory and his M.Sc. degree in mathematics from the University of Washington, Seattle, WA, USA, in 2023. His research interests are in the intersection of control theory, differential geometry, game theory, machine learning, and networked systems. He has been honored with multiple awards and scholarships, including the William E Boeing Fellowship and the Excellence in Teaching Award at the University of Washington.