



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON STATISTICS AND DATA SCIENCE

**Functional Critics Are Essential for Actor-Critic: From
Off-Policy Stability to Efficient Exploration**

By

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Abstract

This work revisits several central challenges in model-free reinforcement learning: how to achieve stable, sample-efficient learning and efficient exploration for actor-critic methods under the Deadly Triad setting. The talk will introduce new theoretical results that help bridge longstanding gaps between off-policy actor-critic theory and practice, as well as a foundational connection between functional critics and posterior-sampling-style exploration in reinforcement learning.

Bio: Dr. Bai is a founding researcher and head of fundamental research at Isara Labs, a San Francisco-based AI neo lab backed by OpenAI. Isara recently raised US\$94 million at a reported US\$650million valuation, underscoring its role in a new generation of AI laboratories focused on moving beyond single-model intelligence toward large-scale, coordinated systems of AI agents. Its mission is to build the scientific and engineering foundations for agentic AI systems that can collaborate, reason, verify, and conduct complex analytical and research workflows at scale - one of the most promising directions for scaling AI systems beyond the capabilities of individual large language models.

Date : 03 July 2026 (Friday)
Time : 2:00p.m.-3:00p.m.
Venue : Room 4502 (near Lift 25/26)

All are welcome