



Thrust #1
Information-Driven Learning
(Overview)

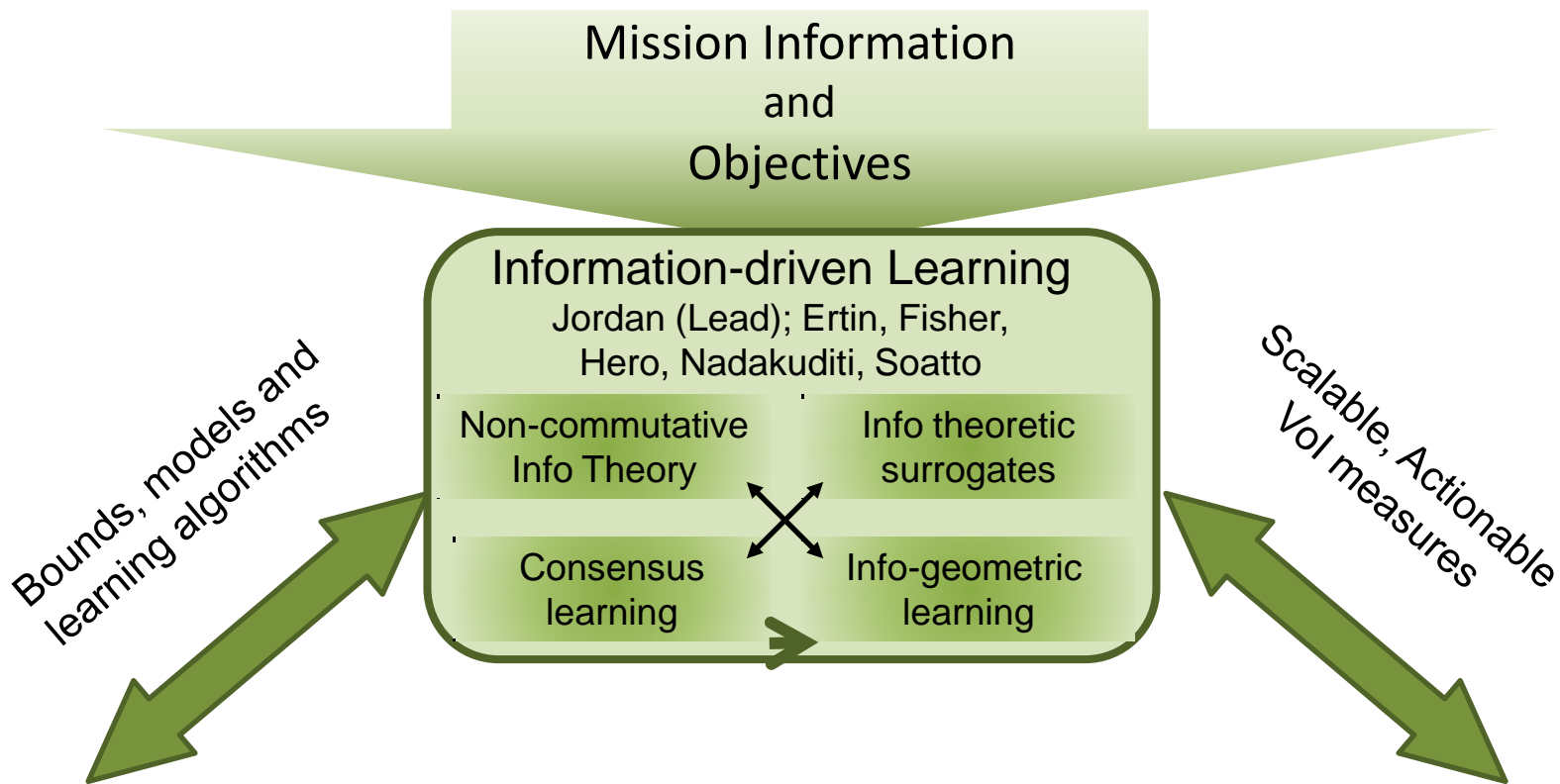
Michael Jordan





Research Thrust #1

Information-Driven Learning





Thrust #1 – Information-driven learning

Overview of Today's Topics



- ***Computation/Statistics Tradeoffs*** (Jordan)
 - We overview our progress on using Vol-based ideas in developing algorithms that minimize statistical risk under constraints, where a key constraint is that of computation time.
- ***Value of Visual Information*** (Soatto)
 - We establish a connection between "control authority" on the sensing process, and "performance" in a visual decision task.
- ***Information-driven learning, distributed fusion, and planning*** (Hero)
 - Improved reduced dimension representations of spatio-temporal processes result in better algorithms for learning covariance matrices, distributed maximum likelihood estimation, and cooperative human-machine state estimation..
- ***Human-Based Learning and Decision-Making*** (Yu)
 - Understanding how humans solve learning and decision-making problems is important for (a) basic science, (b) human-in-the-loop systems, (c) inexpensive/effective heuristics for AI. Topic areas: active learning, active sensing, competitive foraging, multi-source change detection, preference choice & learning.

