



LEHIGH
UNIVERSITY

Institute for Data,
Intelligent Systems, and
Computation (I-DISC)



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Oden Institute for Computational Engineering & Sciences

The University of Texas at Austin

Autonomous Systems in the Intersection of Controls, Learning Theory and Formal Methods

Autonomous systems are emerging as a driving technology for countless many applications. Numerous disciplines tackle the challenges toward making these systems agile, adaptable, reliable, user friendly and economical. On the other hand, the existing disciplinary boundaries delay and possibly even obstruct progress. I argue that the non-conventional problems that arise in the design and verification of autonomous systems require hybrid solutions at the intersection of learning, formal methods and controls. I will present examples of such hybrid solutions in several problems in autonomy at varying levels of detail.