

Verified Artificial Intelligence and Autonomy

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Verified artificial intelligence (AI) is the goal of designing AI-based systems that have strong, verified assurances of correctness with respect to mathematically-specified requirements. This goal is particularly important for autonomous and semi-autonomous systems. In this talk, I will consider Verified AI from a formal methods perspective and with a special focus on autonomy. I will describe the challenges for and recent progress towards attaining Verified AI, with examples from the domain of intelligent cyber-physical systems, with a particular focus on deep neural network-based autonomy in transportation systems.