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IEEE Albuquerque Affinity Group
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Abstract:

Much of the recent focus on autonomous systems involves advanced algorithms for sensing and control, to assess and respond to the environment. State-of-the-art autonomous systems are typically unaware of and unresponsive to the human operator(s) in the loop. Making autonomous systems truly human-centric requires major shifts, to accommodate and respond to not only the state of the physical and computational elements of the system, but also the human elements. New methods and tools must be developed for modeling, prediction and verification, control, and communication, all of which must accommodate the uncertainty, risk tolerance, preferences, trust, workload, and confidence of the human in the loop. This talk overviews recent developments in probabilistic modeling and control for human-centric autonomous systems and promising directions for future work.

Albuquerque IEEE WIE Public Talk
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