Distinguished Seminar
Computer Science

Towards a Science of Security Games:
Key Algorithmic Principles, Deployed Applications and Research Challenges

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Room: CS 209

Abstract - To help in efficient and randomized security resource allocation, for the past few years we have used computational game theory to build decision-aids for security agencies around the world. These decision aids have been deployed for security of ports and ferry traffic with the US coast guard (in the ports of New York, Boston, Los Angeles/Long Beach, Houston and others), deployed for security of airports and air traffic with the Federal Air Marshals (FAMS) and the Los Angeles World Airport (LAX) police, evaluated for security of metro trains with the Los Angeles Sheriff's Department (LASD) and the TSA, and undergoing testing for protection of fisheries with the US Coast Guard and protection of wildlife at sites overseas and for other applications. These applications are leading to real-world use-inspired research in the emerging area of "security games": from new algorithms for scaling up security games, to handling significant adversarial uncertainty, to dealing with bounded rationality of human adversaries and other interdisciplinary challenges. I will provide an overview of my research's group's work in this area in this talk.

Brief Bio - Milind Tambe is Helen N. and Emmett H. Jones Professor in Engineering at the University of Southern California(USC). He is a fellow of AAAI and ACM, as well as recipient of the ACM/SIGART Autonomous Agents Research Award, Christopher Columbus Fellowship Foundation Homeland security award, the INFORMS Wagner prize for excellence in Operations Research practice, the Rist Prize of the Military Operations Research Society, IBM Faculty Award, Okawa foundation faculty research award, RoboCup scientific challenge award, USC Associates award for creativity in research and USC Viterbi School of Engineering use-inspired research award. Prof. Tambe has contributed several foundational papers in agents and multiagent systems; this includes areas of multiagent teamwork, distributed constraint optimization (DCOP) and security games. Prof. Tambe received his Ph.D. from the School of Computer Science at Carnegie Mellon University.