

Information Environment Security

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ABSTRACT

The US Department of Defense Dictionary of Military terms defines the Information Environment as “the aggregate of individuals, organizations, and systems that collect, process, disseminate, or act on information.” The decisions and actions we take both as individuals and collectively simultaneously shape and are shaped by the information environment in which we live. The nature of our interaction with the information environment is rapidly evolving and old models are becoming irrelevant faster than we can develop new ones. This results in uncertainties that leave us exposed to dangerous influences without proper defenses. The purpose of this talk is to help frame a new science of Information Environment Security (IES) whose goal is to create and apply the tools needed to discover and maintain fundamental models of our ever-changing information environment and to defend us in that environment, both as individuals and collectively, against intentional as well as unintentional attempts to deceive, misinform and otherwise manipulate us. IES is an interdisciplinary science that will require bringing together experts working in areas such as cognitive science, computer science, social science, security, marketing, political campaigning, public policy, and psychology to develop a theoretical as well as an applied engineering methodology for managing the full spectrum of information environment security issues.

Categories and Subject Descriptors

K.6.5 [Management of Computing and Information Systems]: Security and Protection

Keywords

Information environment; security; cognitive science; computer science; social science; marketing; political campaigning; public policy; psychology

Bio

Dr. Rand Waltzman joined DARPA as a Program Manager in May 2010. His focus is on information systems security. Dr. Waltzman joined DARPA from Lockheed Martin Advanced Technology Laboratories (LM-ATL), where he served as Chief Scientist for the Applied Sciences Laboratory that specializes in advanced software techniques and the computational physics of materials. Prior to LM-ATL he was an Associate Professor in the Department of Computer Science at the Royal Institute of Technology in Stockholm, Sweden, where he taught and performed research in applications of machine intelligence technology to a variety of problem areas including digital entertainment, automated reasoning and decision support and cyber threat detection. Before his professorship he served as a DARPA Program Manager focusing on machine intelligence and image understanding. Dr. Waltzman has also held research positions at the University of Maryland, Teknowledge Corporation, and the Applied Physics Laboratory of the University of Washington.

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