Networked Robot Swarms—Ready or Not?

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KEYNOTE ABSTRACT

Communication is fundamental to the human experience. Many terrestrial barriers to communication including distance and infrastructure are being overcome with the proliferation of wireless communications. Today, however, not only humans communicate -- issues arising from the scale of a global or inter-planetary Internet of connected humans and machines presents new challenges, opportunities and risks. While the theoretical underpinnings of basic communications are comparatively well-established, these new challenges offer rich opportunities for developing new theories and technology. In this talk I will retrace the impact of major innovations in communication from an architectural and societal perspective and focus on the reasons why certain efforts were wildly successful (or not) and a number of future considerations for this emerging world. I will give special attention to issues relating to IoT and how pervasive communication affects human-robot relations.

SPEAKER'S BIOGRAPHY

Kevin Fall, PhD is an independent consultant and author. He was the founding Chief Executive Officer of Nefeli Networks, Deputy Director and CTO of the Software Engineering Institute (SEI) at Carnegie Mellon University, and a Principal Engineer at Qualcomm and Intel. He is a Fellow of the ACM and IEEE (for work on Delay Tolerant Networking), former member of the Internet Architecture Board, and author of the second edition of the textbook "TCP/IP Illustrated, Volume 1: The Protocols." He has held teaching positions at UC Berkeley, UC Santa Cruz, and UC San Diego.