



Special Talk 4 : From Science Fiction to Reality - Merging of Mind and Machine

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The old dream may become reality - very soon, robots will become a common part of our lives. Recent studies predict the within decades we will witness the astonishing results of a technology evolution where, at the rate of 100 trillion instructions per second (100 million MIPS), our artificial progenies could and possibly will surpass human intelligence.

This talk will take listeners on a stunning voyage of the evolution of the artificial mind. We will begin the journey by looking at the first generation, the lizard like 20,000 MIPS minds. With the creation of more adaptable and intelligent controllers, these machines are becoming ever more humanoid and capable of making decisions via human-type reasoning. Our journey will then look at when "software of intelligence" through biomimeticism and bioimitation may reach the point of being emotional and conscious beings.

This talk will also journey through the fascinating examples of mathematical models of mammalian neurons - from neural implants to wearable exoskeletons. We will take a tour from the sophisticated world of millibots to the swarm robots, from artificial muscles to 3D touch haptics. The final part of the journey will conclude with perhaps the most impressive of all human system interaction forms - cognitive robot control.

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