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Microsoft Research Faculty Summit 2013

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Machine Learning for Interactive Systems: Practical Challenges and Opportunities

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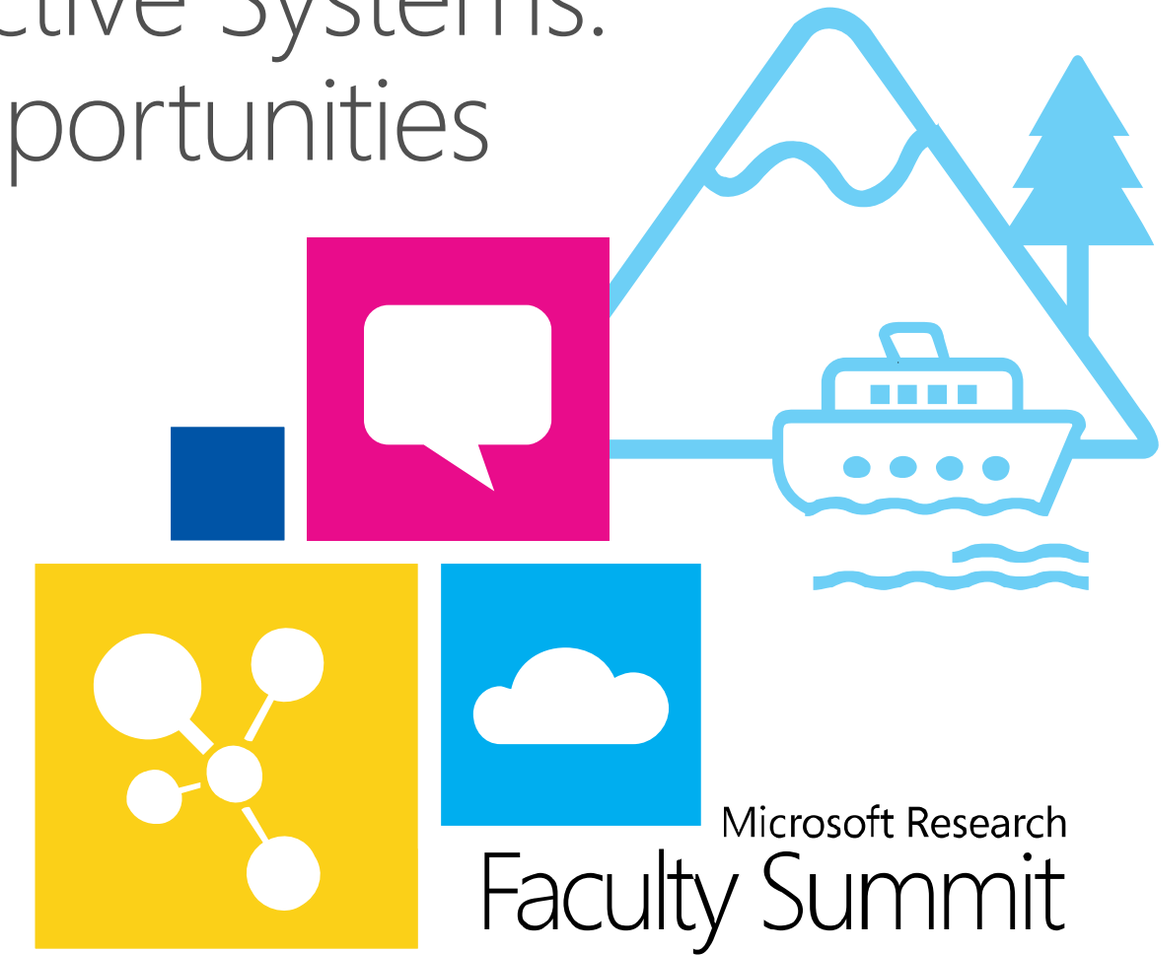
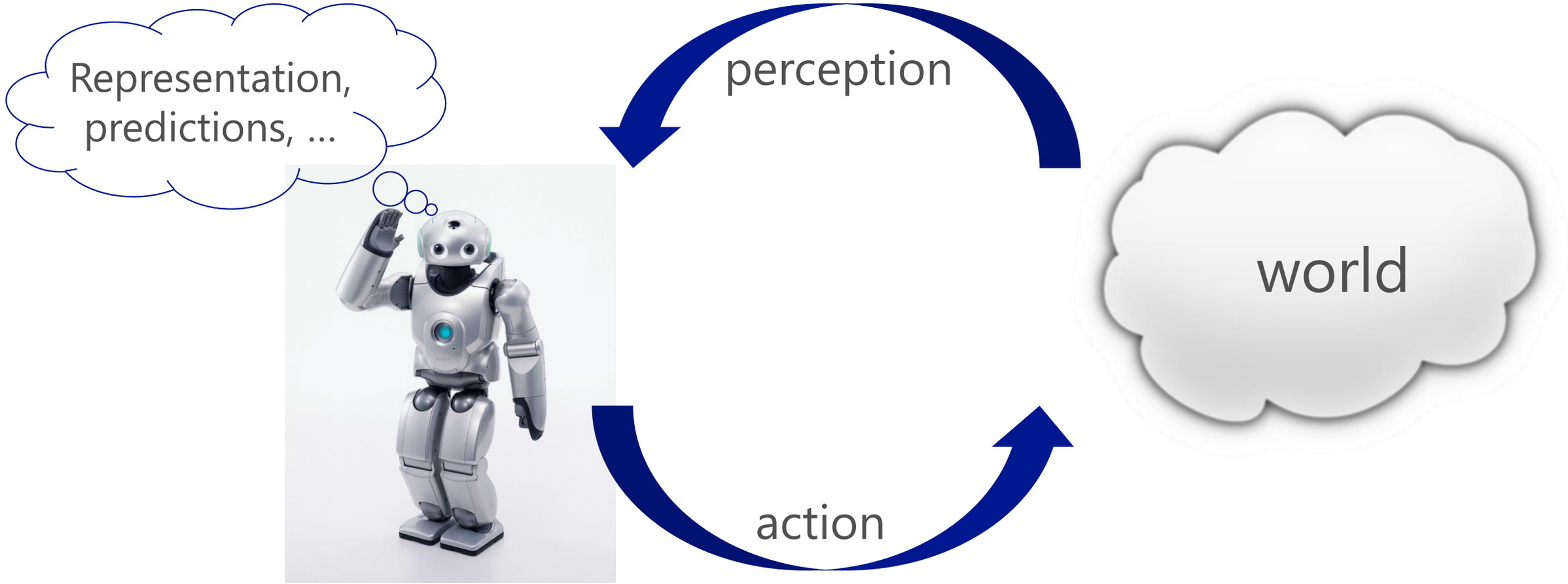


Beyond prediction



ML for interactive systems

Machine learning

- Reinforcement learning
- Multi-armed bandits
- Active learning
- …

Challenges

- Non-IID nature of data
- Exploration vs. exploitation
- Offline evaluation
- …

Interactive systems

- Robotics & control
- Computer game playing
- Human-machine interaction
- Conversational systems
- Intelligent assistive agents
- Autonomic computing
- Adaptive medical treatment
- Education
- Smart homes
- Online services (search, advertising, recommendation)
- …

The session

Dan Bohus
MSR

David Traum
USC

Michael Littman
Brown

Leon Bottou
MSR