Artificial Intelligence for Industry 4.0

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An Industry Revolution: Industry 4.0

The manufacturing sector moves from a laborious mass production model to

- an integrated, seamless automated factory
- digitalizing the entire product value chain,
- optimizing production processes
- the integration of networked communication systems.

[“Industrie 4.0”: Industry 4.0 WG – WG4 Human Beings and Work, October 2012]
The Future Revolution: AI for Industry

• humans and machines that work “hand-in-hand”
• precise, technical skills of machines + cognitive skills of people
• machine automation + creativity and imagination of people
• Human-aware industry 4.0
  • from automation to collaboration
  • from robots to “co-bots”, from workers to co-workers
  • from automated planning/acting to human aware planning/acting ...
Let AI transform a Threat into an Opportunity!

By 2025 $9 trillion reduction in employment costs thanks to AI-enabled automation of knowledge work, $8 trillion in manufacturing

[Bakhshi, Frey, Osborne: Creativity vs. Robots: The Creative Economy and the Future of Employment]

[Bank of America Merrill Lynch, Robot Revolution – Global Robot & AI Primer]
A New Concept of Factory, New Types of Jobs

The most intelligent machine is the one that
• not necessarily replace humans but ...
• lets humans perform a more creative, intelligent job and ...
• lets the factory become more productive, safe, pleasant, enjoyable.

AI is the discipline that can do this (yes, we can!):
• human aware planning and acting
• deep + continuous learning from data and human behaviors
• intelligent Interaction (e.g. natural language based, speech based)
• inclusive technology, AI for all, AI for good & wealth redistribution
Thanks for your Attention