The Second Machine Age

Changing the world requires two things:
  • **Power system**: move or transform things
  • **Control system**: decide where and how

**Industrial Revolution = Physical Power**
  • Steam engine (and Internal combustion engine, Electricity)
  • Mostly a complement to humans

**Second Machine Age = Mental Power**
  • Computers, Software, Big Data, Machine Intelligence
  • Complement or substitute?
State of Understanding, 2004

Uniquely Human Abilities

1. Autonomous mobility and fine motor control
2. Language and complex communication
3. Pattern matching and unstructured problem solving
Machine Intelligence

Interacting with physical world
- Fine and gross motor control
- Vision and other senses

Language
- Voice recognition
- Natural language processing
- Creating narratives

Problem Solving
- Answering unstructured questions
- Rule based analysis
- Pattern recognition and classification

➢ We’re in the midst of the greatest “one-time” event in history!
Siri

Voice recognition

Lionbridge
Translation

Narrative Science
Authoring News Stories
Forbes Earnings Preview: Apple

Apple reports its second-quarter earnings on Wednesday, April 23, 2014, and the consensus earnings per share estimate is $10.21 per share.

The consensus estimate has risen over the past month, from $10.20, but it’s below the estimate of $11.02 from three months ago. For the fiscal year, analysts are projecting earnings of $42.72 per share. Analysts project revenue to fall less than a percent year-over-year to $43.55 billion for the quarter, after being $43.60 billion a year ago. Analysts are expecting revenue to stay flat at $43.55 billion this quarter. For the year, revenue is projected to come in at $180.22 billion.
Accuracy and Questions Answered on Jeopardy!

The Digital Frontier
What does this mean for the economy?
The Bounty

$300 BILLION PER YEAR
The Great Decoupling


WHAT’S GOING ON?
The Hard Truth

Digital progress makes the economic pie bigger.
But there is no economic law that everyone, or even most people, will benefit.

Three Sets of Winners and Losers

1. High Skilled vs. Low & Mid Skilled Workers
Skill Disparities

Three Sets of Winners and Losers
1. High Skilled vs. Low & Mid Skilled Workers
2. Capital vs. Labor
Three Sets of Winners and Losers

1. High Skilled vs. Low & Mid Skilled Workers
2. Capital vs. Labor
3. Superstars vs. Everyone Else
Superstars
WHAT IS TO BE DONE?
Our View

“Digital technologies change rapidly, but organizations and skills aren’t keeping pace. As a result, millions of people are being left behind.”

The New Grand Challenge

- Digital technologies will continue to accelerate.
- Our skills, organizations and institutions are lagging.
- Business as usual won’t solve this problem.

➢ *We need to reinvent our economy and society to keep up with accelerating technology*
The New Landscape

• What challenges and opportunities do you see?

• What are your concerns and questions?
To learn more, visit:

http://digital.mit.edu/erik

http://digital.mit.edu/ide

http://secondmachineage.com