

# Industrial Revolutions and How AI is Already Changing Work

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**FAKE NEWS**

- What does AI mean for the future of jobs and work?
- What does AI mean for the future place and location of work?
- What does AI mean for the future economy and economics?
- What is the role of policy?





# INDUSTRIAL REVOLUTIONS

# The Industrial Revolution

First and Second Industrial Revolutions: Approximately 1750-1914

- Technology & Mechanization
- Movement from an agrarian/ small-scale farming society and and artisan/handicraft society to an industrial and machine society
- Began in 1700s in Great Britain with the textile industry
- Spread to Europe and US
- Nature and location of work changed
- Society changed
- People moved from working in small villages and homes to cities and factories
- Eventually factories automated

# Later Industrial Revolution

## Moved from Great Britain to Europe and US

- Electrification
- Coal
- Gas
- Steel
- Automobile
- Railroads
- Telegraph
- Telephone
- Factory Automation

# Third and Fourth Industrial Revolutions

- Third Industrial Revolution: 1969 Development of Microprocessor
  - Followed by personal computers
  - Digital Transformation
- Fourth Industrial Revolution: 2016 coined by Klaus Schwab, Founder of the World Economic Forum
  - IOT
  - Robotics
  - AI

# Today: Fifth Industrial Revolution

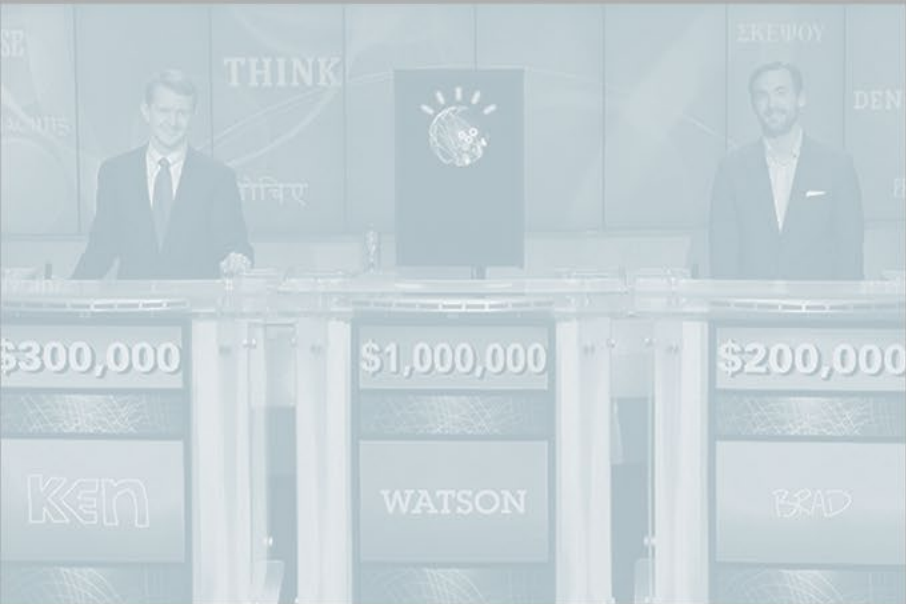
- Continued development and Evolution of AI
  - Large Language Models
  - Generative AI such as ChatGPT
  - Other

POLICY CHANGES



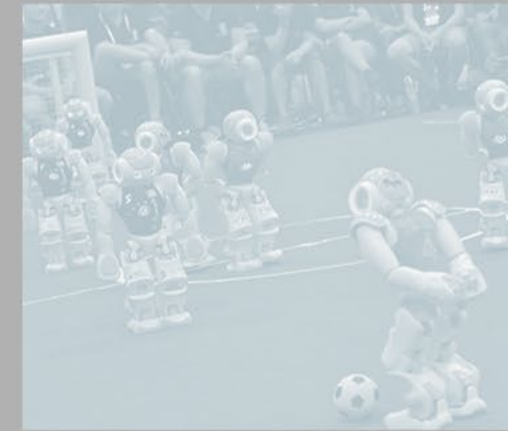


Examples	Capabilities	Limitations
"Explain quantum computing in simple terms" →	Remembers what user said earlier in the conversation	May occasionally provide incorrect information
"Get any creative ideas for a 10 year old's birthday?" →	Allows user to provide follow-up corrections	May occasionally provide harmful information or hate speech
"How do I make an HTTP request in Javascript?" →	Trained to decline inappropriate requests	Limited knowledge of events and current data



**JOBS**

```
...=u.length:r&&(s=t,c(r))}return this},remove:
tion(){...},disable:function(){...},fireWith(this,argument
e:funci...fireWith(this,argument
nding",r,{state:funci...}{return n},always
omise)?e.promise().done(n.resolve).fail(n.r
i(function(){n=s},t[1^e][2].disable,t[2][2]
),n=h.call(arguments),r=n.length,i=1!==r||e
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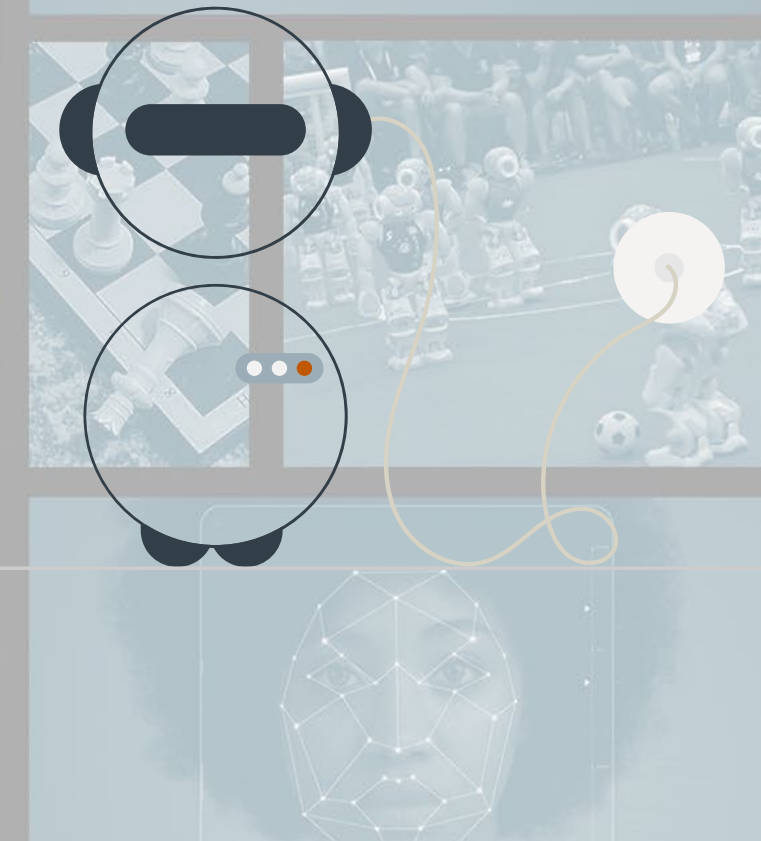




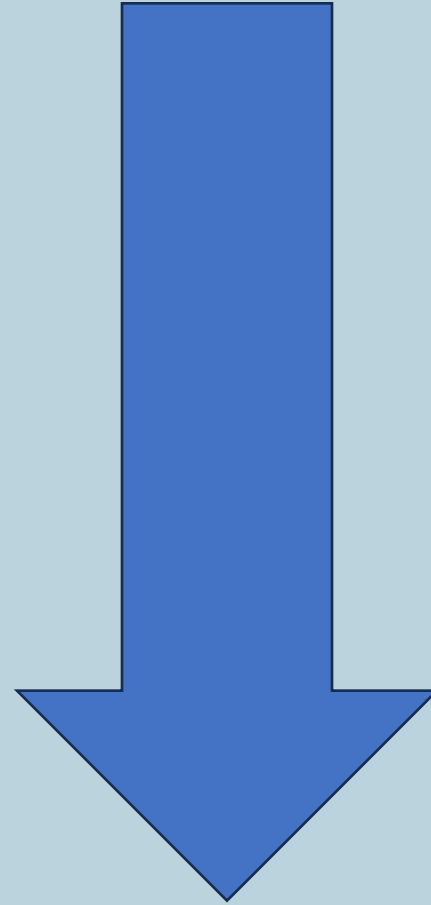
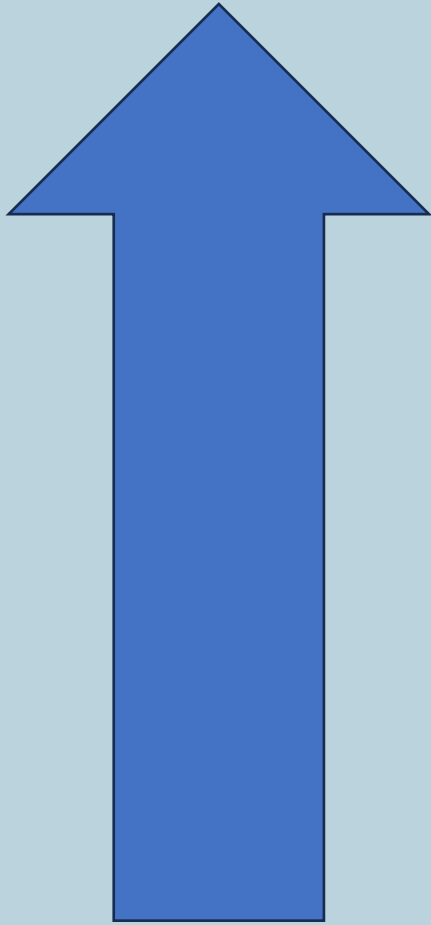
FAKE NEWS

# The Future of Work

- How will we work?
- Where will we work?
- What jobs will there be?
- What social & political implications?



# What jobs will there be?



# Workplace Changes

- Hiring
- Performance Evaluation
- AI Assistants
- Privacy
- Intellectual Property

# AI, Machines, Humans & Work

- Machines assisting humans
  - Good Systems: Living and Working with Robots
- Humans assisting machines
  - Good Systems: Making Smart Tools Work for Everyone



# Jobs Being Affected Now

Jobs involving rote tasks and repetitive administrative tasks:

- Data Entry
- Data Analysts
- Receptionists
- Administrative Tasks
- Check Out
- Assembly Line Workers
- Warehouse Workers
- Retail
- Fast Food

# Jobs Being Affected Now - Examples

- Coders: AI is doing the coding.
- Graphic Designers: AI is designing rather than humans.
- Legal Assistants: AI is creating basic documents.
- Translators: AI is doing the translating.
- Assistants: AI is creating schedules and summarizing meetings.
- Stock trader: AI is making the stock trades.
- Tax Preparers: AI is doing basic taxes.
- Web Developers: AI is developing websites.
- Customer Service Lines: AI chatbots answering on customer call lines.

# Think About Jobs with Creative Work or Manual Labor & Unions

## Manual Labor & Unions

- United Auto Workers (UAW)
- Dock Workers (Longshoremen)

**SHOULD FURTHER AUTOMATION BE DISCONTINUED AT AUTO PLANTS & PORTS?**

## Creative Work & Unions

- Screenwriters (WGA)
- Actors (SAG)

**SHOULD HOLLYWOOD BE ALLOWED TO USE GENERATIVE AI INSTEAD OF SCREENWRITERS?**

**WHAT ABOUT VISUAL ARTISTS & MUSICIANS?**

# Job Cuts & AI

According to a 2023 survey by resume builder:

- 37% of companies using AI say the technology replaced workers this year
- 44% of companies surveyed say AI will lead to layoffs in 2024

<https://www.resumebuilder.com/1-in-3-companies-will-replace-employees-with-ai-in-2024/>



# Jobs Less Vulnerable to AI

Manual labor jobs and blue collar are less vulnerable to AI:

- Pipe Layers
- Dish Washers
- Fire Fighters
- Barbers

# Jobs Less Vulnerable to AI

Jobs requiring emotional and social intelligence & high degree of interaction with people and jobs where AI assists & complements the workers

- Lawyers
- Judges
- Surgeons
- Child Care Workers
- Therapists
- Social Workers
- Teachers