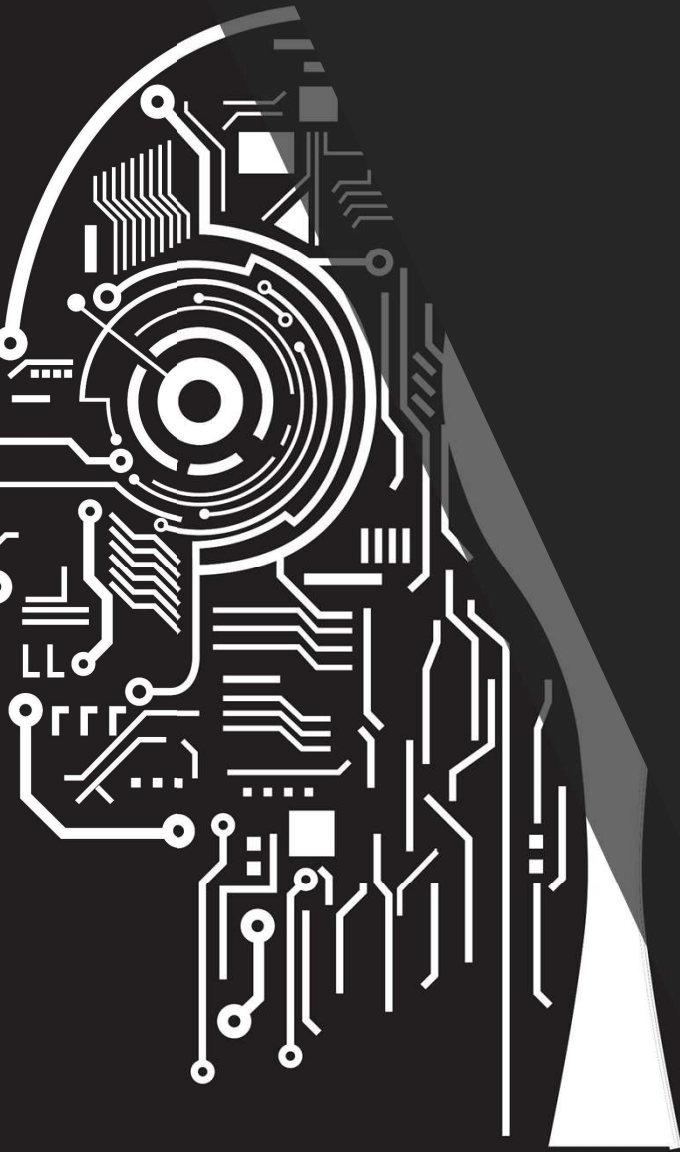




Zhong Chen

The University  
of Nottingham

# A possible threat of artificial intelligence to employment rate



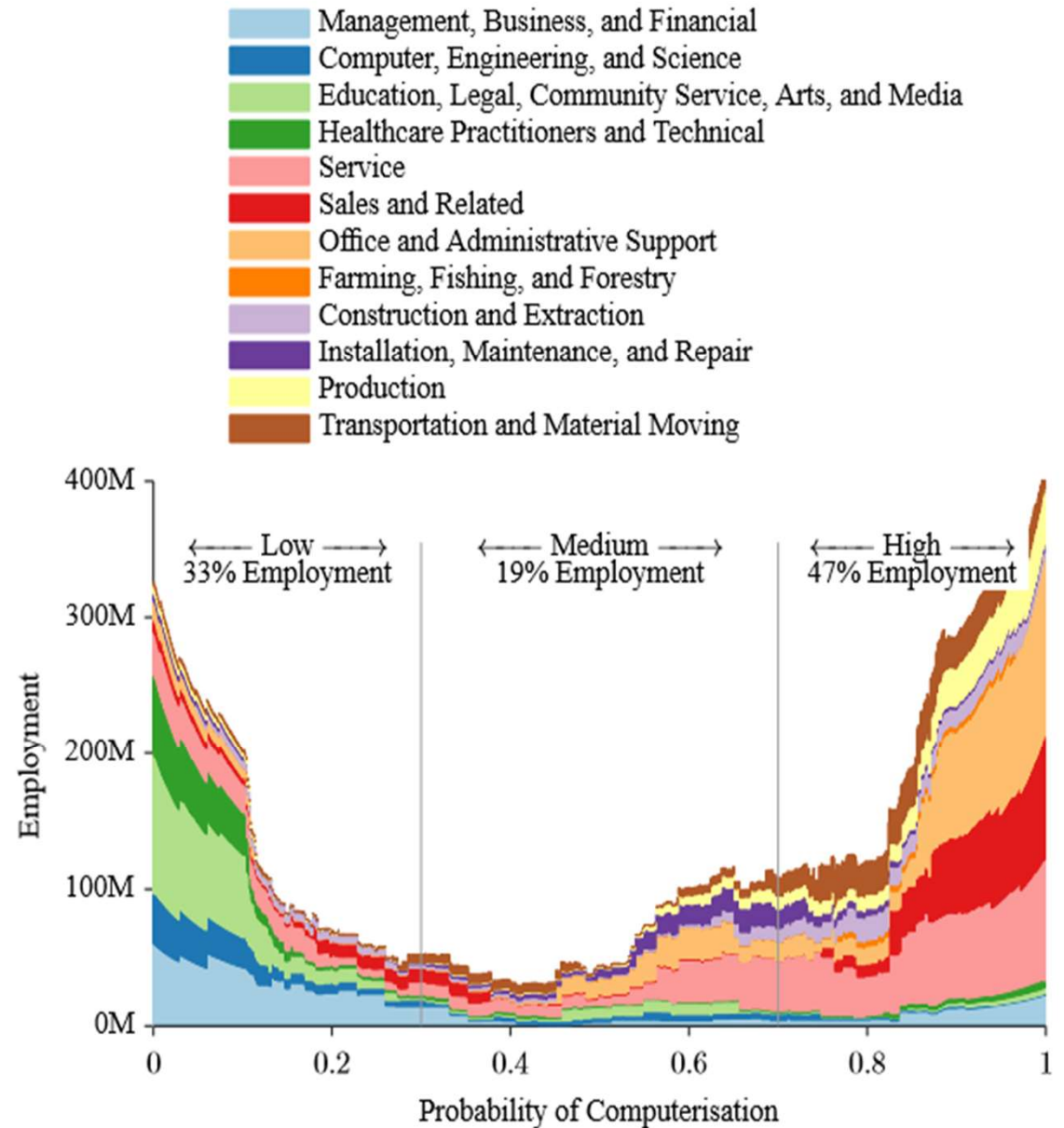
# overview

- Problem
- Solution - Restriction
- Solution - Inspiration
- Evaluation
- Conclusion and recommendation
- Q&A

- Why it is severe

The distribution of BLS 2010 occupational employment over the probability of computerization. Note that the total area under all curves is equal to total US employment.

(Frey, and Osborne, 2013)



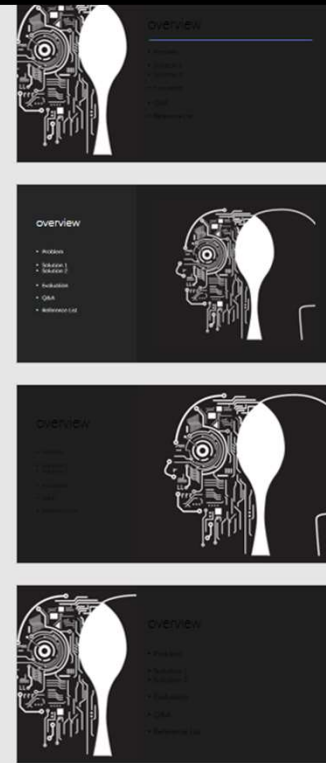
- Why it is urgent

Many experts predict that AI inevitably will attain human-level abilities and surpass human mental skills “if not in 20 years, then surely in 50 “ (Nilsson, 1984)

# Problem

## overview

- Problem
- Solution 1
- Solution 2
- Evaluation
- Q&A
- Reference List



(BBC News, 2016)

# Problem

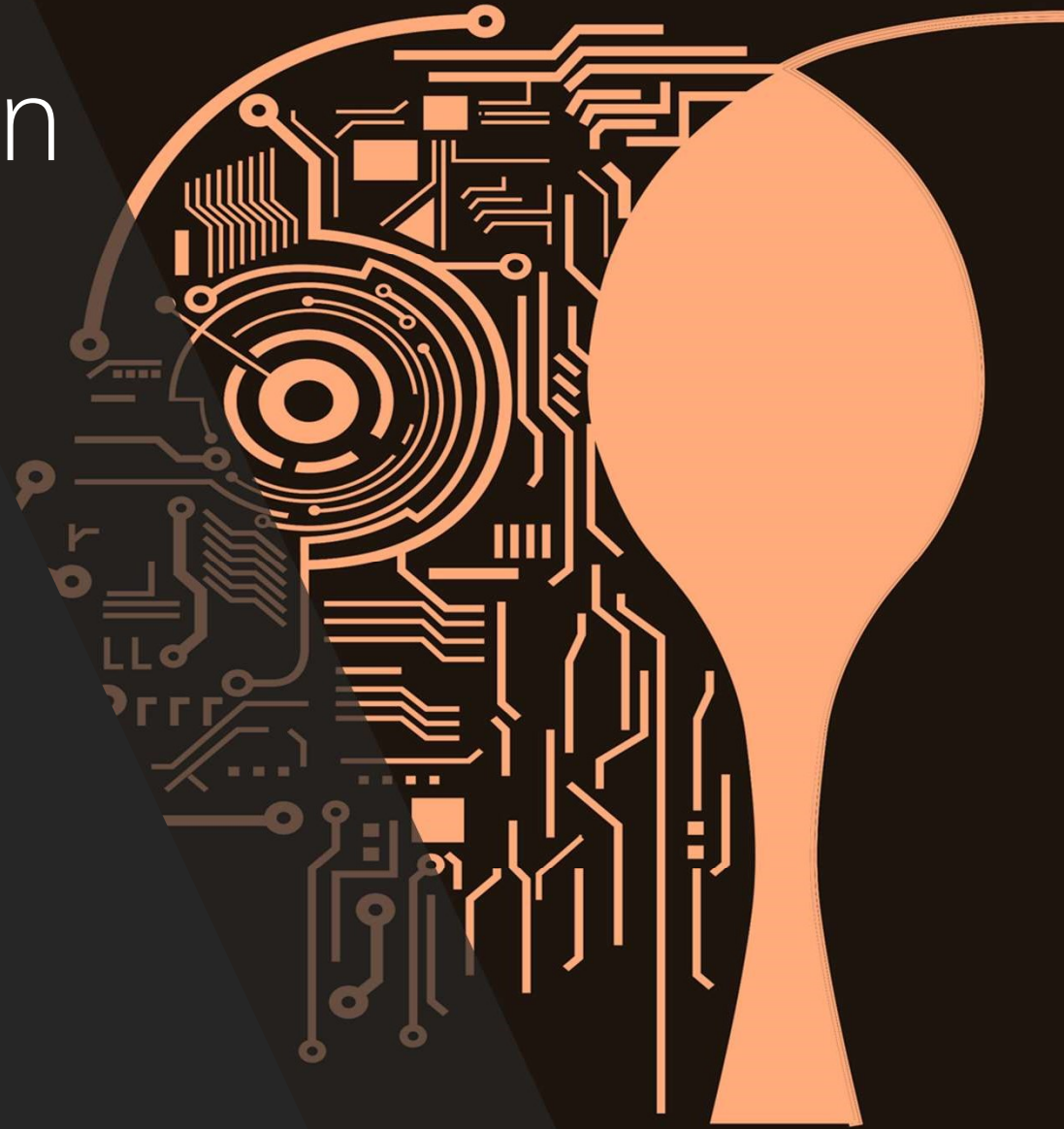
- Why it is economic

Unemployment caused by AI may result in ...

- Devaluing labor
  - Increasing income gap
  - Increasing crime rate
  - Increasing government fiscal deficits
- (Raphael, and Winter-Ebmer, 2001)

# Solution - Restriction

- **C**onstrain application
- **U**tilize tax instruments
- **R**egulate development
- **B**oost human involvement



# Solution - Inspiration

- **B**oost the education expenditure
- **U**tilize fiscal support
- **O**rganize AI institutions
- **Y**ield some restriction





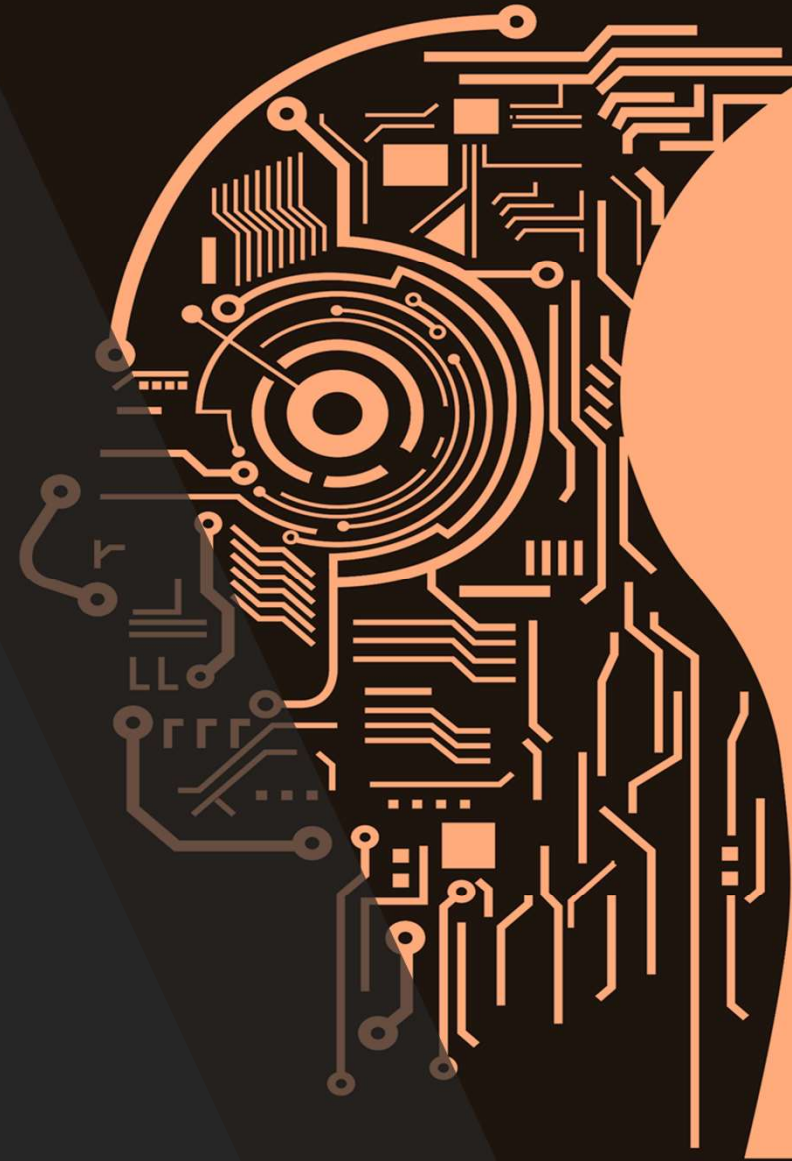
# Evaluation

## Solution - **Curbing**

- Early effectiveness
- Easy management
- Low expenditure

### **BUT**

- Lost opportunity
- Stunted tech-development  
(Scherer, 2016)





# Evaluation

## Solution - **Buoying**

- Future effectiveness
- Entire exploitation
- Competitive superiority  
(Nation Science and Technology Council, 2016)

### **BUT**

- Large amount of money
- Large amount of time  
(Executive Office of the President, Nation Science and Technology Council, 2016)



# Conclusion & Recommendation

## **Solution 2 is...**

- More sustainable
- More adaptive to competition

## **And...**

- Resolvable drawbacks
  - Issuing long-run bonds
  - Setting funds



Q&A

---

# Reference List

Executive Office of President, National Science and Technology Council and Committee on Technology (2016) *Preparing for the Future of Artificial Intelligence*.

Executive Office of the President (2016) *Artificial Intelligence, Automation, and the Economy*. Available at: <https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/Artificial-Intelligence-Automation-Economy.PDF> (Accessed: 27 March 2017).

Frey, C. and Osborne, M. (2013) 'The future of employment: How susceptible are jobs to computerisation?', *Technological Forecasting and Social Change*, 114, pp.254-280.

Nilsson, N. J. (1984) 'Artificial intelligence, employment, and income.' *AI magazine*, 5(2), 5.

Raphael, S., and Winter-Ebmer, R. (2001). Identifying the effect of unemployment on crime. *The Journal of Law and Economics*, 44(1), 259-283.

Scherer, M. (2016) 'Regulating artificial intelligence systems: risks, challenges, competencies, and strategies', *Harvard Journal of Law & Technology*, 29(2), pp. 354-398.

Thank you

---