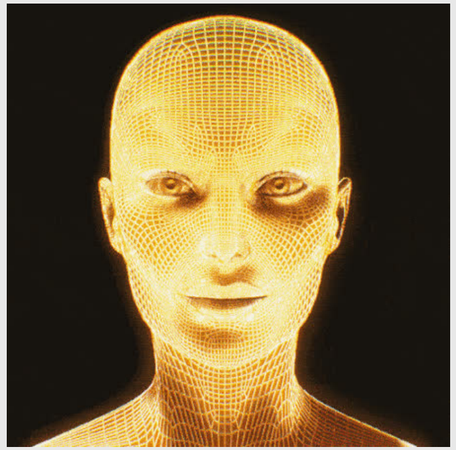
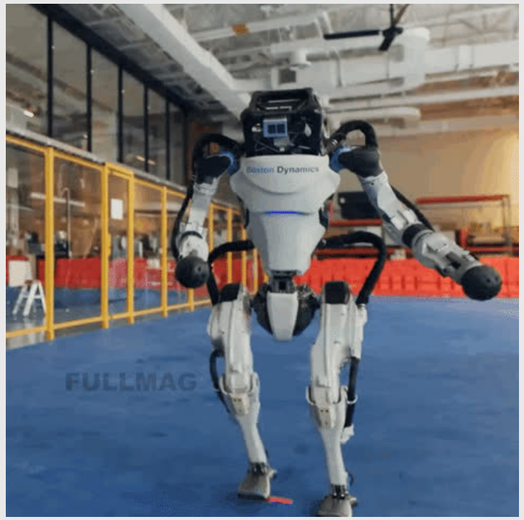
AI
2041
10 visions for
our future
Timothy Kaboya

Agenda

- Introduction and Why
- About the Authors
- Chapter Reviews
- Other Themes explored
- Final Questions

Introduction





Why 2041?

- Easy to base on realistic AI
- Can extrapolate decades ahead
- Far enough to be futuristic
- Think about the children. :)

Amara's Law

"We tend to **overestimate**
the effect of a technology
in the short run
and **underestimate**
the effect in the long run."

About the Authors

Kai-Fu Lee

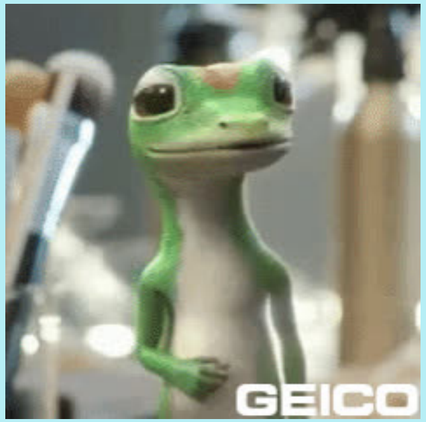
- Author of "AI SuperPowers"
- Research Scientist and Executive
- Ex Apple, MSFT, Google Executive
- Founding Director - MSFT Research Asia
- Google China President
- Co-Chair of AI Council, World Economic Forum

Chen Qiufan

- Award Winning sci fi writer
- President, China Sci Fi Association
- Award for story generated with AI
- Explores relation between Humans and AI
- Won AI Contest for best AI Generated Short Story

Golden Elephant - The Story

- Theme is Deep Learning, its strengths and weaknesses



Setting

- Extended Family Living in Mumbai
- Ganesh Insurance, (Super App) offering cheap insurance
- Insurance Auto adjusts premiums using user behaviour
- Super App offers incredible discounts
- AI nudges family away from "risky" behaviours
  - Avoid certain parts of the town
  - Eat Healthily
  - Discourages relationships between castes

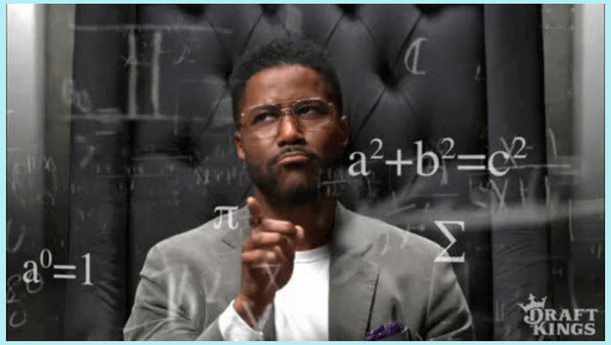
Golden Elephant - Takeaways

Deep Learning Tech is an **objective function** that optimizes for goals of the platform owners

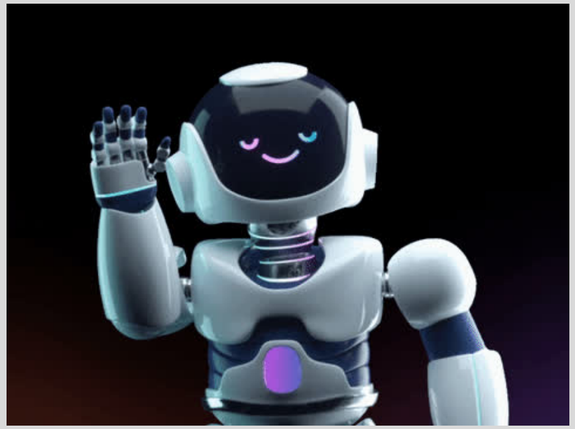
$$Insurance\ Premium = \min\left(aX + bY + \cdots\right)$$

Possible remedies

- Complex functions should maintain fairness, lower bias
- User input should be in the loop of the function
- Regulation to penalize offenders
- Explainable AI
- Engineers should have a "Hippocratic Oath"
- AI firm Audits



Twin Sparrows - AI in Education



- Theme is AI Companions, and the tech needed for this (NLP, GPT-3, VR/AR glasses, AGI and Consciousness

Setting

- Orphanage school in Seoul, South Korea
- Funded by pioneer AI company to use best in class AI tutoring
- Each child designs own virtual tutor that then plays with them and nudges them to learn and develop
- Two twins have opposite experiences with AI
- AI Tutors optimize for User needs.
    - Twin 1 grows in competitiveness
    - Twin 2 nurtures creative skills

The Twin Sparrows - Takeways

- AI Companions will converse regularly in **any** human language
- Self supervised NLP, Transformers like GPT3 will open up a world of **AI Companions**
- Deep Learning will eventually become Artificial General Intelligence (AGI)
- AI presents huge opportunities in Individualized Learning
- In an AI infuse school, teachers can be mentors, aid student skills in creativity, critical thinking, empathy and team work.
- AI will improve access to World Class Education.

Holy Driver - The Story

- Theme is Autonomous vehicles and Full Autonomy

Setting

- Middle class family in Colombo, Sri Lanka
- Chamal is a talented young gamer
- Offered a VR Cockpit being used to drive a car in another country
- Transition from Human driving to Autonomous driving has started
- Smart roads are everywhere.
- But there is still need to drive on normal roads

Self Driving - State of Tech

Levels of Autonomy - Automotive Society

- L0 (no automation)
- L1 ("hands on")
- L2 ("hands off")
- L3 ("eyes off")
- L4 ("mind off")
- L5 ("steering wheel optional)"

The Holy Driver: Takeways

- L5 Vehicles will lead to on demand transport
- Much higher safety records, roads optimized
- Drop in human drivers, only exprt and as needed

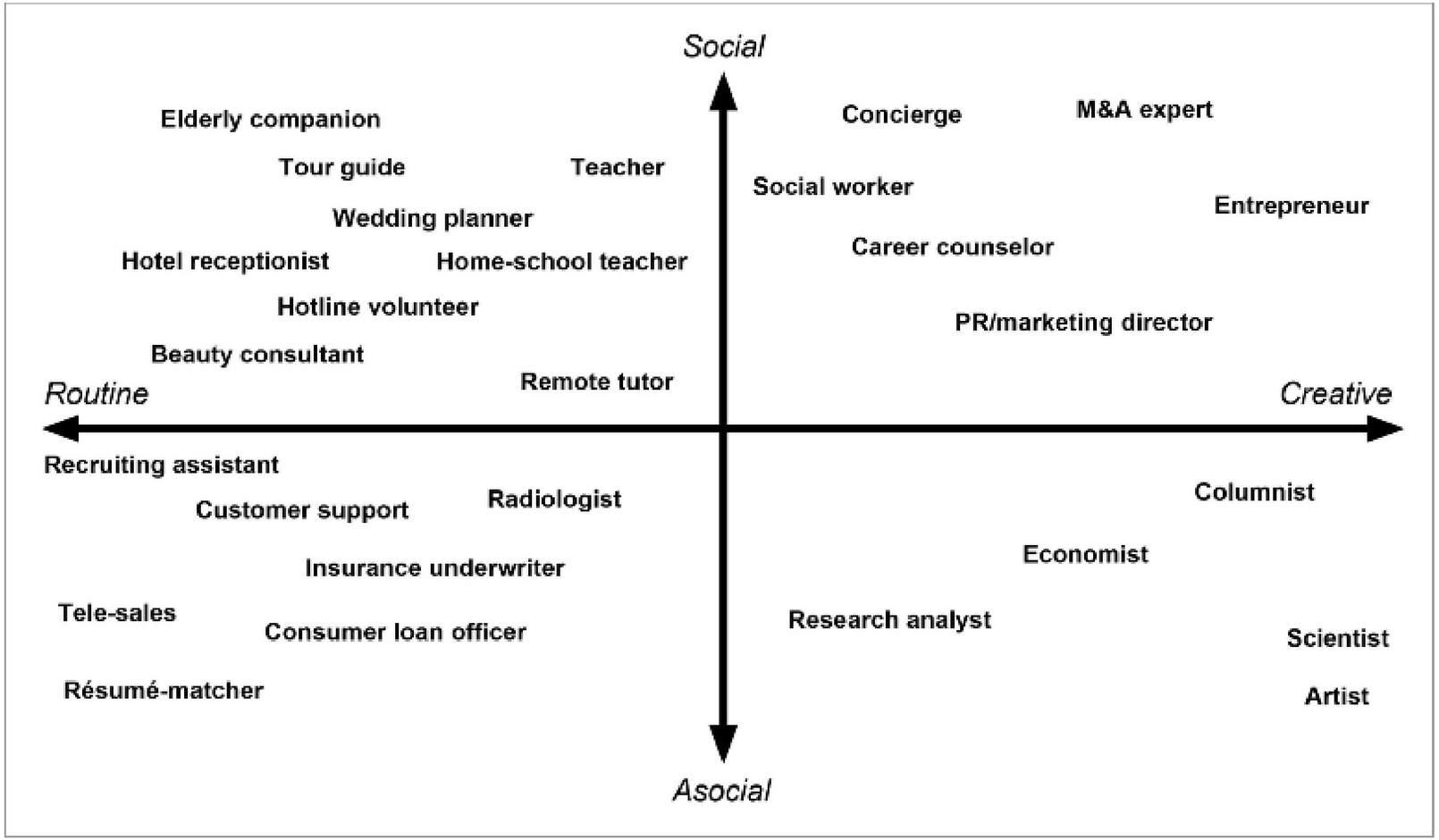
Social and Ethical Issues

- "The trolley problem"
- Job loss or displacement.
- Accountability for accidents

Citroen Ami

Will AI Take away our jobs?

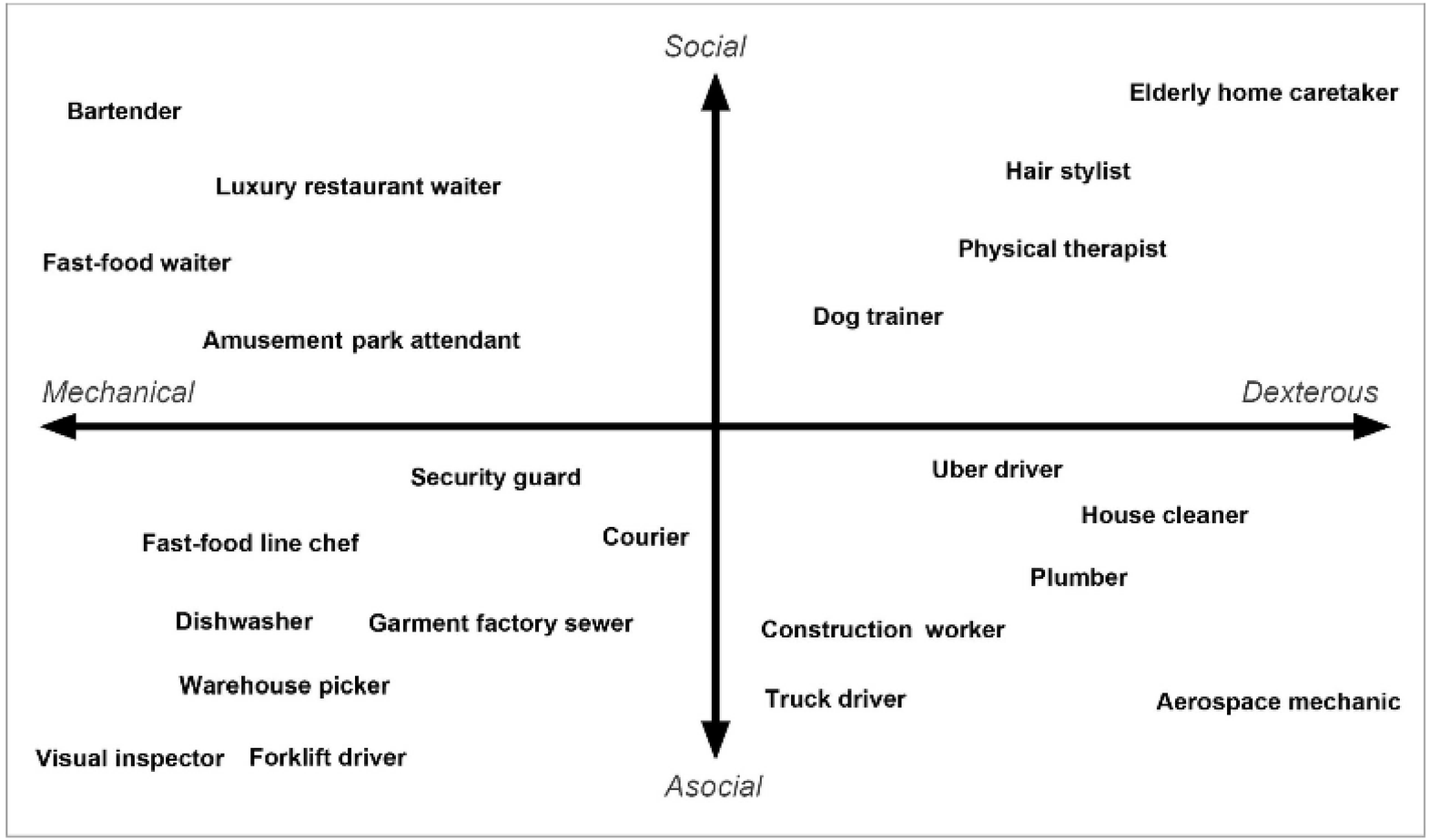
Cognitive Jobs



Cognitive jobs on a two-dimensional chart. Upper right favors humans, and lower left favors AI.

Will AI Take away our jobs?

Physical Jobs



Physical jobs on a two-dimensional chart. Upper right favors humans, and lower left favors AI.

Other Themes explored

1. A world of Deep Fakes, CNNs, and Generative Adversarial networks
2. AI in Healthcare, Robotics and Contactless love.
3. Applications in VR, AR, MR, Brain Computer interfaces
4. Quantum Computers, threat to Security, Autonomous weapons
5. How AI will cause Job Loss and Displacement
6. Can AI be used to optimize for Happiness
7. How can AI be used to create plenitude?

Conclusions

- A lot can change in 20 years
- So much high end techology
- Yet its not mainstream yet.
- At times, the author seems wildy optimistic
- There are huge ethical, social and regulatory issues to be overcome
- Barriers to AI adoption will not be technical

Questions, Comments, Discussion

Asanteni Sana!