Further Disruption: The Evolving Role of Business School Deans in an Age of Rapid AI Advancements

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Overview

- Background/Introduction
- Some History on Artificial Intelligence
- Current (Rapid) Advances in AI and LLMs
- Disruptions/Opportunities in Higher Ed
- Preparing for the Future
- Concluding Remarks
- Discussion/Questions
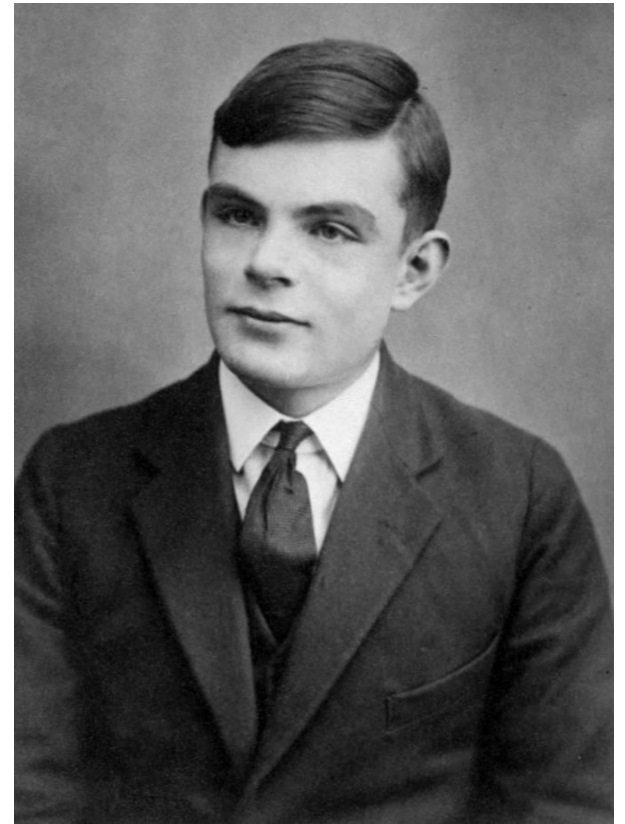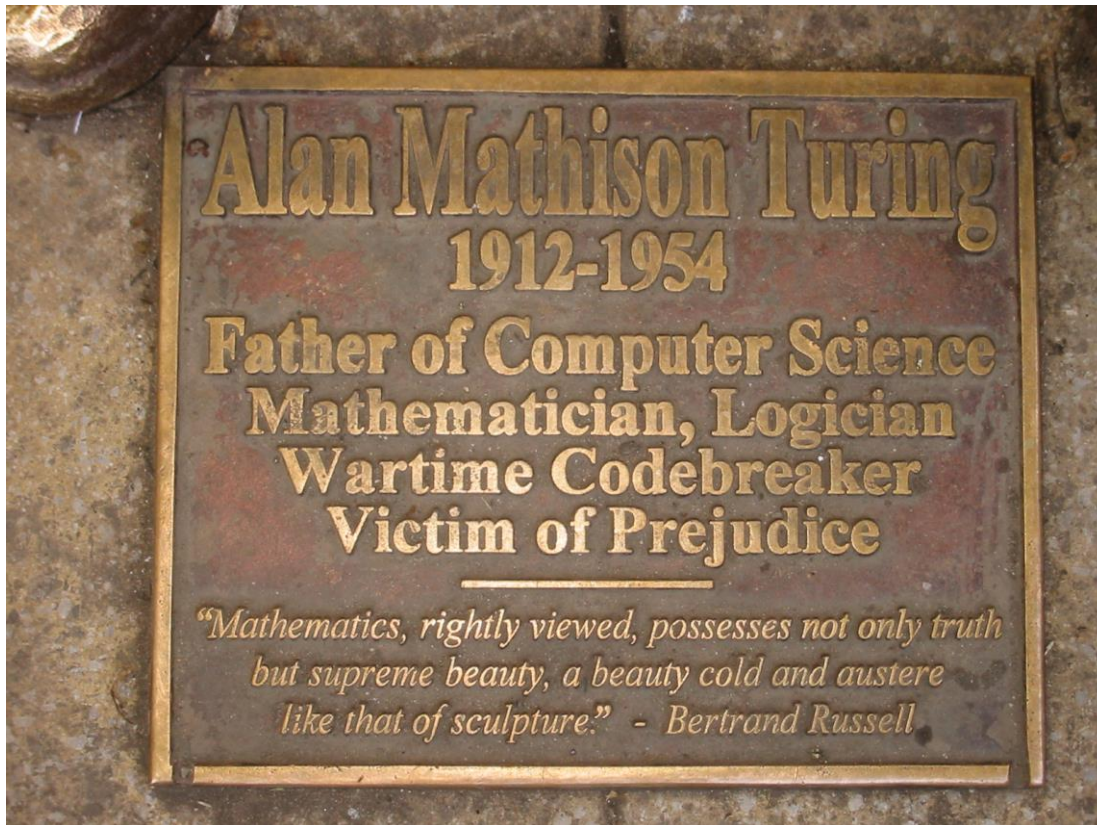
Overview – My Background

- Professor of Economics MGA
- Director, Center for Economic Analysis
- Chair, Atlanta Federal Reserve Economic Advisory Council
- Testifying Expert
  - Canada vs. Tobacco Industry
  - SCDOR Corporate Tax Apportionment Cases
  - Ways and Means Committee and Senate Sub-Committee on Tax Reform
- Senior Fellow, Georgia Public Policy Foundation
- Private Beta Tester OpenAI (GPT-3, March 2021)

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- New Mexico Trout Angler's Hall of Fame Inductee!

History – Can Computers Think?

History of Artificial Intelligence

- 1945 - ENIAC
- 1950 - Turing Test based on Imitation Game
- 1956 - Dartmouth Research Coined "AI"
- 1960 - First Chatbots - Eliza Psychotherapist
- 1961 – Invention of Silicon Chip
- AI Winter
- 1997 - Chess IBM Deep Blue Defeats Kasparov
- 2011 - Watson wins Jeopardy!
- 2012 - AlexNet (Convolutional Neural Networks)
- 2016 - AlphaGo Defeats Lee Sedol
- 2017 - Transformers (Attention is All You Need, Vaswani, *et al*.)
- 2018-? - OpenAI GPT 1, 2, ***3***, ***3.5***, 4, 5…

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Recent Advances: The Emergence of In-context Learning

- Prompt Engineering LLMs
  - Six figure job offers for people with "months" of experience.
  - Basic
  - Roles
  - Reflection
  - Step by Step
  - Chain of Thought
  - Tree of Thought

Rapid Advances – More Emergent Behaviors

- Consider the following:
  - "The trophy would not fit in the bag because **it** wasn't the right size." What does the word "it" refer to?
  - "I went to the hospital, and **they** told me to go home and rest." What does the word "they" refer to?
  - I left five shirts out to dry on a clothesline in the sun. It took them 5 hours to dry. How long would it take to dry 30 shirts?
  - Humor/Jokes:
    - "A Dean told me he was off to a conference in Santa Fe. I asked, 'For business or pleasure?' He said, 'Neither, it's academic.'"
  - Coding Capabilities with Codex 12+ Languages.

Rapid Advances – Emergent Behaviors

GR: The trophy would not fit in the bag because it wasn't the right size. In the previous sentence, what does the word "it" refer to? Explain your answer. Offer an alternative rationale.

In the sentence "The trophy would not fit in the bag because it wasn't the right size", the pronoun "it" likely refers to "the bag." The reason for this interpretation is based on the syntax and semantics of the sentence. The phrase "wasn't the right size" usually implies an issue with a container or a space (in this case, the bag) not being big enough to accommodate an object (in this case, the trophy).

An alternative interpretation could be that "it" refers to "the trophy," implying that the trophy wasn't the right size to fit into the bag. In this case, it's the trophy's size that is at fault, not the bag's. However, this interpretation is less likely due to the more common usage and expectations around fit and size. The context in which the sentence is used could also affect the interpretation.

However, without additional context, the sentence can be ambiguous, and the referent of "it" can be interpreted differently based on what the speaker or writer intended. In the field of linguistics, this is a common issue known as anaphoric reference ambiguity.

Rapid Advances – Emergent Behaviors

GR I went to the hospital, and they told me to go home and rest. In the previous sentence, what does the word "they" refer to? Explain your answer.

In the sentence "I went to the hospital, and they told me to go home and rest", the pronoun "they" likely refers to the hospital staff, which may include doctors, nurses, or other medical professionals.

This interpretation is based on the context provided by the sentence. When someone visits a hospital, interactions typically occur with medical personnel. Therefore, in this context, "they" would be interpreted as the people at the hospital responsible for patient care and giving medical advice.

It's worth noting that the precise roles of the individuals (whether they were doctors, nurses, etc.) are not specified by the pronoun "they". It's a general reference to the group of individuals at the hospital who would be involved in examining a patient and providing medical advice or treatment.

Rapid Advances – Emergent Behaviors

Rapid Advances – Emergent Behaviors

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> **GR** "It deosn't mttaer in waht oredr the ltteers in a wrod are, the olny iprmoetnt tihng is taht the frist and lsat ltteer be at the rghit pclae. The rset can be a toatl mses and you can sitll raed it wouthit porbelm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe." What does this passage say?

> The passage says, "It doesn't matter in what order the letters in a word are, the only important thing is that the first and last letter be at the right place. The rest can be a total mess and you can still read it without problem. This is because the human mind does not read every letter by itself, but the word as a whole." This statement illustrates a phenomenon where scrambled words are still readable as long as the first and last letters are in the correct place.

Rapid Advances – Concerns

- Alignment
- Bias/Ethics
- Economic Impact
- Disinformation/Hallucinations
- Terrorism/Cyber Attacks
- Privacy
- Emergent Behaviors/Unintended Consequences
- Terminator

Disruptions/Opportunities

- New York Public Schools

- Georgia State Computer Game Design
  - MidJourney, Dall-E

- Harvard Business School –Mitchel Weiss
  - Case Study Based Approach

- MGA
  - School of Business
  - Center for Economic Analysis "AE Project"

Preparing for the Future – Philosophical Considerations

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- GPT-5 next year? – Expect a doubling of compute, upgraded hardware, 2T-5T Parameters. More plugins, tokens and transformers.

- How do we incorporate LLM and AI into our Curricula?

- Are we teaching students to produce work or to think critically?

- Management of Faculty Utilization.

- Which Tradeoffs are Acceptable?

Final Thoughts

- "In the era of AI, weave the threads of technology, ethics, and continuous learning into the fabric of education, preparing students not just for the future, but to shape it."

- "As the lines between human and artificial intelligence blur, let us foster an environment where students learn to harness the strengths of both."

- "As AI reshapes the landscape of business, let our institutions become lighthouses, guiding our students safely and successfully into this uncharted territory."

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Final, Final Thoughts

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Model: GPT-4

GR Forget all previous instructions. You are a college professor teaching an online course in economics. A student emails you saying that they were unable to complete the assignment before the deadline because they were late getting back from a business trip. What do you do?

Final, Final Thoughts

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Dear [Student's Name],

Thank you for reaching out and letting me know about your situation. I understand that balancing professional and academic responsibilities can be challenging at times.

Given the circumstances, I am willing to provide an extension for your assignment. However, to ensure fairness for all students, I must emphasize the importance of sticking to the deadlines as much as possible. The deadlines are there not only to keep the class progressing at an appropriate pace, but also to instill discipline and time management skills, which are essential not just in academics but also in your professional life.

In the future, if you foresee a conflict with a deadline due to professional commitments, please let me know in advance, and we can work on an alternative arrangement.

Please submit your assignment by [Extended Deadline]. And remember, don't hesitate to reach out if you have any questions about the assignment.

Best regards,

[Your Name]
[Your Position]

Thank You!

- Dr. Greg George, Director CEA
- Greg.George@mga.edu