



# Open Discussion #2

PORTO  
July 2024

## IARIA Congress 2024 & DigiTech 2024

**Theme: Impact of AI Tools on Online Social Networks**

### COORDINATORS

**Prof. Dr. Matthias Harter**, *RheinMain University of Applied Sciences, Germany*

**Emeritus Prof. Dr. Malcolm Crowe**, *University of the West of Scotland, United Kingdom*



# Inquiries under Discussions

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## Items under scrutiny

- a. Digital literacy
- b. AI-induced uncertainty vs Benefits of quick ‘reasonably good’ summarizations
- c. The power of information distillation
- d. ...
- e. ..
- f. .



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**In my opinion, AI promises everything but always needs more domain knowledge and checking of any output**

- Most articles are about adoption but not effectiveness or benefit
- **AI influence on Social Media: “AI can tailor the social media experience to show more of what the user might like”-Angela Cowo, Hive Digital**
  - Motivated by business requirements social marketing
  - Results in over-specialization/narrowing of fields of interest
  - Leads to growth of conspiracy theories



Malcolm Crowe  
University of the  
West of Scotland  
(retd)



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- **Ontologies to the Rescue! Juan Sequeda, data.world**  
“Investing in creation of a knowledge graph provides higher accuracy for LLM powered question answering systems”
  - (1) Give the AI tool as much of your data as you can
  - (2) But also: annotate your data with a knowledge graph
- **You get nothing for nothing**
  - Describe EXACTLY what you want
  - Provide ontology, current state



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University of the  
West of Scotland  
(retd)

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INCREASING THE LLM ACCURACY FOR QUESTION ANSWERING:  
ONTOLOGIES TO THE RESCUE!

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TECHNICAL REPORT

Dean Allemang  
data.world AI Lab  
dean.allemang@data.world

Juan F. Sequeda  
data.world AI Lab  
juan@data.world

May 20, 2024

ABSTRACT

There is increasing evidence that question-answering (QA) systems with Large Language Models (LLMs), which employ a knowledge graph/semantic representation of an enterprise SQL database (i.e. Text-to-SPARQL), achieve higher accuracy compared to systems that answer questions directly on SQL databases (i.e. Text-to-SQL). Our previous benchmark research showed that by using a



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- Darwin told us that **Intelligence emerges in evolution**
  - “Intelligent design” without a Designer
  - The Descent of Man (1871) pp 39-40: “Even insects play together.. The fact that the lower animals are excited by the same emotions as ourselves is so well established, that it will not be necessary to weary the reader by many details.”
- Sentience does not come from language!
- Lars Chittka 2017 [Bee cognition](#)
- “Surely, you might say, consciousness requires a really large brain, a neocortex. Basic consciousness-like phenomena can be implemented with just a few thousand neurons — not a prohibitively large number for an insect brain”



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**Volume 7 (2022)**

Crump, Andrew; Browning, Heather; Schnell, Alex; Burn, Charlotte; and Birch, Jonathan (2022) Sentience in decapod crustaceans: A general framework and review of the evidence. *Animal Sentience* 32(1)

Solms, Mark (2022) Truly minimal criteria for animal sentience. *Animal Sentience* 32(2)



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- **Intelligence is not language!**

- It is truly great news that we do not need **large language models** to produce AI
- We do not need **deep learning** either: both humans and animals learn with fewer iterations

- ChatGPT's text merely looks right

- As a piece of **language**
- Needs constant checkin



Malcolm Crowe  
University of the  
West of Scotland  
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Trends in Ecology & Evolution

CellPress  
REVIEWS

Review

Grow Smart and Die Young: Why Did  
Cephalopods Evolve Intelligence?

Piero Amodio,<sup>1,\*</sup> Markus Boeckle,<sup>1</sup> Alexandra K. Schnell,<sup>1</sup> Ljerka Ostojic,<sup>1</sup> Graziano Fiorito,<sup>2</sup> and Nicola S. Clayton<sup>1</sup>



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- Keep it simple

- Simple neural networks are better at learning!
- Reinforcement learning achieves a lot
- Produces simple and quick results
- Usable when full calculation takes too long
- **Do: Ditch ChatGPT** unless you really want fakes
- But **Don't: Advocate legal rights** for all sentient beings (animals, plants, ..?)



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- **Data on social media platforms is becoming the “treasure” for training LLMs**
  - **Lack of “traditional” data used for conventional learning algorithms (articles, facts, literature, news, images, etc.)**
  - **Facebook announced all user data will become part of training of next-gen Llama models**
    - **New terms and conditions for all users!**
    - **Users can opt out if they give good reasons**
      - LLMs used to evaluate and decide if accepted? Used to generate?
  - **Elon Musk acquired Twitter/X for freedom of speech? No, to get a hold of human-centric data for training AI!**
  - **AI tools use postings on social media platforms to steer business**



Matthias Harter  
Hochschule  
RheinMain

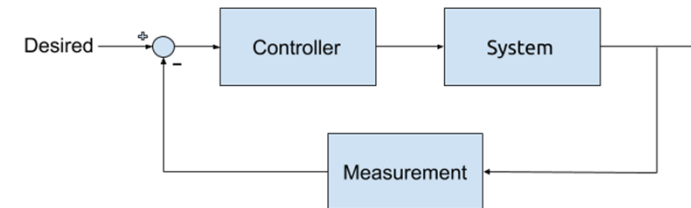




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- **Danger of self-amplification (reinforcement) by feedback**
  - **Financial markets:**  
AI tools analyze and evaluate people's opinion, sentiment and/or preferences (interest) posted on online platforms (Facebook, Twitter/X, ...) to increasingly influence financial decisions (and more)
  - **Control theory applied to AI-Human-Loop:**  
Will it become eventually instable? Already?
  - **Businesses in the Information Age:**  
Tendency to reward speed, principle "the winner takes it all"
  - → Are we becoming spectators of a ridiculous race (vicious circle) for the most aggressive and fastest feedback loop? With or without us? (LLMs evaluating media data generated by themselves, only sketchily moderated by humans' desires, capabilities and weaknesses)



Matthias Harter  
Hochschule  
RheinMain



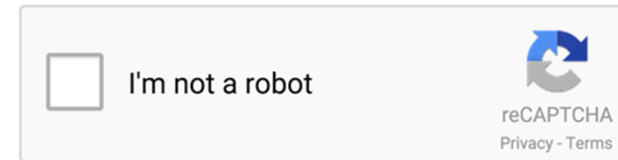
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- **Examples of vicious cycles / cat-and-mouse game:**

- **Captchas:**

- **Machined efforts to fool another machine about the machine's true nature (being non-human) vs. machine-made efforts to unmask other machines**



- **Uniqueness tests:**

- **Test for assessment of “impact factor” of blog posts, ratings and product reviews (Trustpilot, check24, ...) run by machines vs. machine-made texts on these media platforms**

- **Security:**

- **Hunt for exploits for criminal abuse driven by AI vs. efforts to identify and close security holes by AI based vulnerability scanning tools**

- **Many, many more...**



Matthias Harter  
Hochschule  
RheinMain