AI & Art Pavilion for Esch2022: Kick-off meeting

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Dov-Art-AI/slides

Event planned for Friday 25 September 2020

2

As part of Esch2022, the European capital of culture, scientists at the University of Luxembourg will create the AI& ART pavilion, a multidisciplinary and interactive environment in which scientists, artists and the public can meet and interact. Located on Belval campus, the pavilion will offer its activities throughout 2022. Under this scope, the kick-off meeting will be held on 25 September 2020 at the Hall des Poches à Fonte (Belval campus). This will be the opportunity to introduce the Pavilion, its elements and to explain to the audiences how they can join and participate in the various projects, which the Pavilion entails.

Artificial Intelligence and Art

Can a robot appreciate art?

A beginning discussion meeting with artists. 3

- What is exactly artificial intelligence (AI)?
- Is a chess program intelligent?
- Is a face recognition program/neural net intelligent?
- Is a recognition program/neural net of X-ray of sick lung (vs. healthy lung) intelligent?
- Is a recognition program between a lying victim of explosion/accident vs. simple homeless person lying intelligent?
- Can AI create art?
- Can AI appreciate art?

Let us focus on a very specific problem.

- Given a photo of a person and an artistic portrait made by an artist from that same photo

Can an AI tell which is which?

- Add a drawing of the same person, or a caricature sketch of the same person, can an AI recognise the person?
- Can AI be trained to distinguish between an artistic photo of a person and a slight variation no artistic photo of the same person (while recognizing the latter as that same person)?

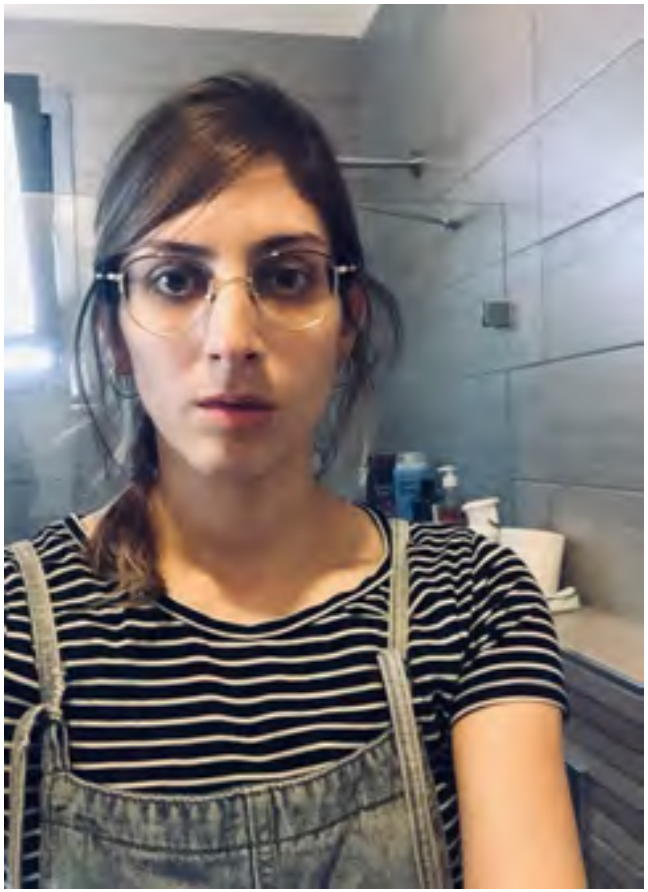
Pictures 1

Saved from **justsomething.co**. Self portrait dedicated to Dr. Eloesser, Frida Kahlo – remake by Yesenia

Pictures 2

6

Pictures 3




I KICKED
Cancer's
ASS!

weekly news magazine 'L'Express' on January 22, 1988 in London, England. (Photo by Jean GUICHARD/Gamma-Rapho via Getty Images)

Margaret

Pictures 4

Pictures 5

11

Is a world champion chess program intelligent?

Red text is ours. Other text is quoted from Wikipedia

- Deep Blue-Kasparov, 1996, Game 1 is a famous chess game in which a computer played against a human being. It was the first game played in the 1996 Deep Blue versus Garry Kasparov match, and the first time that a chess-playing computer defeated a reigning world champion under normal chess tournament conditions (in particular, standard time control; in this case 40 moves in two hours).
- Advanced Chess is a form of chess developed in 1998 by Kasparov where a human plays against another human, and both have access to computers to enhance their strength. The resulting "advanced" player was argued by Kasparov to be stronger than a human or computer alone, this has been proven in numerous occasions, at Freestyle Chess events.

Is a world champion chess program intelligent? (cont.)

Red text is ours. Other text is quoted from Wikipedia

- Players today are inclined to treat chess engines as analysis tools rather than opponents
- Chess program has computing power to analyse millions of possible moves quickly. This is not intelligence. A human can disregard useless possibilities based on experience.

Adriaan de Groot

interviewed a number of chess players of varying strengths, and concluded that both masters and beginners look at around forty to fifty positions before deciding which move to play. What makes the former much better players is that they use pattern recognition skills built from experience. This enables them to examine some lines in much greater depth than others by simply not considering moves they can assume to be poor.

cont.

More evidence for this being the case is the way that good human players find it much easier to recall positions from genuine chess games, breaking them down into a small number of recognizable sub-positions, rather than completely random arrangements of the same pieces. In contrast, poor players have the same level of recall for both. The problem with type B is that it relies on the program being able to decide which moves are good enough to be worthy of consideration ('plausible') in any given position (this is intelligence) and this proved to be a much harder problem to solve than speeding up type A searches with superior hardware and search extension techniques.

Is recognition of X-rays of sick lungs intelligent?

- You train the neural net program with hundred of thousands of available samples
- A doctor gets the idea after maybe 500 samples
- A logical formulation of principles can assist the program to reduce the need of so many samples

How to recognise an art painting from a photo?

- We don't have so many samples
- Can we formulate principles? What to look for?

Concluding discussion

- We need to conduct more experiments
- Develop algorithmic logical theories based on graphs combining (fibring) logic with neural nets pattern recognition
- Personally, we think that at the moment current AI (is not really intelligent, and) cannot appreciate art.

Thank You