

THE ENVIRONMENT! A FEW EXAMPLES...

- Built Environment – Tracking air quality in cities and high population areas
- Disaster modelling – AI models are increasingly helping predictions
- Climate change – Modelling where, when and how changes might happen along with potential solutions
- World Environment Situation Room (WESR) the “Planet Earth Control Centre”
- Power control - Google DeepMind’s control of Datacentre power consumption/efficiency and it’s success.



RESEARCH - JOSEPH EDWARDS

Hi! I’m Joe and I’m going to talk about some of the research behind our game and the technologies that could be implemented to help the environment both in the game and reality.

Number one on this list is built environment monitoring, tracking air quality will allow us to centre on hotspots in a city that have higher pollution levels, these hotspots could be caused by big business, an industrial area or even a busy set of roads that could be streamlined and made more efficient to keep traffic flowing.

Natural disasters happen, they’re just that, natural! But the better we can track them the better, AI Datasets on weather and disasters are sbeing used to create models to track these events and predict patterns, given that weather is set to get worse with the environment, this is essential for predicting threats to human life to bring in steps like evacuation, slightly merging into this point is climate change modelling in general, this would include data like tracking the rising sea levels, global temperature variations, frequency of high and low pressure systems etc, the UN are making headway with this by creating the World Environment Situation room, a digital platform that has been described a s future “mission control centre for planet earth”, a similar set of overviews could be implemented in the game in order to inform the player on where/when to place technology for maximum effect.

“How artificial intelligence is helping tackle environmental challenges,” UNEP, 07-Nov-2022. [Online]. Available: <https://www.unep.org/news-and-stories/story/how-artificial-intelligence-helping-tackle-environmental-challenges>. [Accessed: 03-May-2023]. <https://thumbs.dreamstime.com/z/eco-robot-plants->

green-tree-vector-isolated-illustration-137937039.jpg

GETTING TO THE POINT...AND BACK FROM IT

- So, what's the point in knowing and using all this data? The tipping point of course!
- Contributors to the tipping point include:
 - Melting sea ice/Slowing ocean currents
 - Permafrost loss increasing earth's temperature
 - Albedo loss (Loss of the effect of bouncing IR radiation back to space)
 - Reduction in Oxygen Producers
 - Carbon dioxide saturation
- Reducing all of these factors with or without AI will be the only way to save the Earth, in the game and in life!
- AI Models will and are helping with this and can massively speed up the process with the large datasets they can absorb and process.
- In our game these BIG DATA AI models would give you an overview of where to place your resources and technology and an idea of where your environment is relative to the tipping point

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The tipping point is a term in environmental science where it's said the planet cannot recover, that things will just get worse and worse and the environment more unstable by the day.

Some say we have passed that point, others say that we still have time, truly it's hard for us to know, humans are a drop in the pond on earth!

Assuming we don't have a forgone conclusion and this isn't the Matrix, we need to wake up and make changes quickly before it's too late, AI will help this by collating data from a lot of sources together in ways that have not been possible before.

“Tipping points,” StudySmarter UK. [Online]. Available: <https://www.studysmarter.co.uk/explanations/environmental-science/sustainability/tipping-points/>. [Accessed: 03-May-2023].

TECHNOLOGY, HUZAH!

- A few techie things to save the earth!
- Solar glass
- Graphene
- Plant-based plastic
- Better Batteries
- Environmental sensors
- Smart grids
- Nuclear fusion
- AI



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To bring us back from the brink and heal the earth, technology will be needed! AI is useful, but it cannot work alone.

Of special interest here are Graphene and Nuclear Fusion, Graphene is being hailed as the next super material, super conducting, super thin and super strong it has many properties that mean it could skyrocket technology in general, Nuclear Fusion would herald limitless clean energy but has so far not been possible due to the temperatures and power required to achieve it.

All of these technologies could be part of the tech tree in the game, Fusion would be the top dog in this!

G. Nichols, "These 10 technologies are most likely to help save planet earth," ZDNET, 13-Sep-2019. [Online]. Available: <https://www.zdnet.com/article/10-technologies-most-likely-to-help-save-planet-earth/>. [Accessed: 04-May-2023].

https://www.intofilm.org/intofilm-production/scaledcropped/1096x548https%3A/s3-eu-west-1.amazonaws.com/images.cdn.filmclub.org/film__3971-monty-python-and-

the-holy-grail--hi_res-b5eca82a.jpg/film__3971-monty-python-and-the-holy-grail--
hi_res-b5eca82a.jpg

THE LEARNING CURVE

- AI in the game is a superintelligence, this does not exist...yet
- To give a real example, check out this image comparison of AI generated images only 1 year apart-



- Depending on how you view it, this progress is either terrifying or interesting!
- Our game AI will learn as you go through the game and make choices

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AI is a fast learner, that's a given, but the progress here is astounding, the image on the right is not real, there are a few things wrong it when looking closely, but if the AI we have now can learn this fast, the next few decades are going to be interesting. In the game, the choices you make will affect the storyline and the AI will adapt and re-generate based on your answers to problems.

D. Piper, "Mind-blowing image reveals how AI art has progressed in 1 Year," Creative Bloq, 06-Apr-2023.

[Online]. Available:

<https://www.creativebloq.com/news/ai-year>. [Accessed: 04-May-2023].



All that's left to say from me is that a game like this can make a real point in the world and drive thoughts home to a generation that needs to make the change, it's not too late! Now over to Andrew for more about the game itself, thank you.

<https://img-prod-cms-rt-microsoft-com.akamaized.net/cms/api/am/imageFileData/RE5dP2W?ver=3ced&q=90&m=6&h=270&w=270&b=%23FFFFFF&f=jpg&o=f&aim=true>