The Social Responsibility of Game AI

Michael Cook
School of Electronic Engineering and Computer Science
Queen Mary University of London

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Purpose

- This paper is an attempt to push some of discussions into the spotlight, to help preserve these issues in the permanent record of this field, also to help illustrate the author's own views on these topics.

Do we have a responsibility? -Game and Play

- *Game* here means:
  - all digital videogames and boardgames, as well as media such as interactive 3D art and VR experiences. Folk games, playground games, and undirected play are included as well.

- Many data shows that: Games and play are vital parts of ppl's lives, and ppl's appreciation of their importance in a healthy life is growing.
  - Game market is estimated to be worth more than $179.7bn, with 2.7bn ppl purchasing and playing commercial games regularly.
  - UK game markets spending > 0.5 all entertainment spending
  - Globally economic value of the games market > 2* film.

- Play is one of the most fundamental things we do
  - 93% children in UK playing games regularly
  - 50% of ppl over 65 in the US have been playing games for 10 years or less

Do we have a responsibility?
-Artificial Intelligence

- By 'artificial intelligence' here include anyone who studies, uses or develops AI techniques and theory, including planning, heuristic search, machine learning, human-computer interaction and more besides.

- Governmental organizations worldwide are seeking advice as they attempt to legislate on a wide range of technological impacts from labor to creativity. (they try to build rules)

- Demand for AI expertise greatly outstrips supply

- Globally popular opinion are divided about whether to be afraid of AI or hopeful. (Even tho AI industry continues to move fast and break things)

Do we have a responsibility?
-Game AI Research

- Game AI research is putting Games and AI into the spotlight of the public vision since playing is the fundamental human activities and AI is a once in a century technological revolution that the world desperate to understand, exploit and, in some cases, defend against.

- Thus, many private labs targeted games - they engage the public, they provide clear demonstrations for legislators and investors, and they satisfy the needs of AI researchers for tough challenges. (Google DeepMind, OpenAI)

- While AI in fields like medicine, language looks much more important, it is author's belief that Game AI is in a unique position to impact the world in a way that few working in AI can. Crucially, this also brings the responsibilities no one else can pick up.

To whom are we responsible?
-To Game Developers

- Over 220,000 jobs in the US alone rely on its games industry. Yet we typically hear from just a fraction of those ppl.

- Serious issues in wider games industry: Stories of toxic work environments, widespread crunch and mismanagement, and growing support for unionization.

- One of beneficiaries from Game AI research is commercial game developers. Thus, game AI research community closely engages with commercial organizations. Many paper of researchers talked bout how their work can be adapted into the game market while not clearly mentioning the impact to future game market.

To whom we are responsible?
-To Artists, Hobbyists and Others Excluded

- Market is oversaturated.
    - 2010, 276 releases -> 2020, 9914 releases

- Most games are free to play
    - April 2021, There are 370,000 games on steam, 357,000 of which are free to play.
    - Roblox(game platform) has over 20,000,000 listing in its game store are free to play.

- Researchers usually facing to large, commercially viable companies, rather than ppl making games as part of their personal creative practice.
    - By not open-sourcing our work, or by releasing software incompatible with popular free tools, we make it harder and costlier to access and benefit from our work.

To whom we are responsible?
-To The General Public

- People afraid of AI

- Game can be the space where ppl learning about AI, so they can determine the kind of future they want, or what changes they want to resist.

- Our research affects how games track and model player behavior and engagement.

- As scientists working in a uniquely engaging and accessible space, to help equip the public with the knowledge they need to navigate and survive this new wave of technology.

To whom we are responsible?
-To Each Other (Researchers)

- Racism and sexism

- Problems which are compounded by the precarity of the career ladder, making it difficult to pursue a career without moving for jobs, taking pay cuts, delaying major personal life decisions

- Damaging physical and mental health through overwork

end

What responsibility do we have? -Resisting Imperialism and War

- Military built some games for recruitment and training, and now expending.

- 2021, the United States' National Security Commission on Artificial Intelligence released their final report, a 756- page document of recommendations for 'winning the artificial intelligence era'

- In a survey of five years of papers both at IEEE CoG and AAAI AIIDE2 , they found 28 publications either funded by military organizations or with co-authors bearing military affiliations. Of these, 15 were in the last year.(Funding research)

- The Future of Life institute has identified 36 national AI strategies and six international strategic alliances including the EU and the UN.

- In 2020, for example, over 80% of US Government spending on AI was on defense.

What responsibility do we have? -Resisting Imperialism and War

- Actions:
  - Do not accept conference or journal submissions from authors working for, or affiliated with related oganiztions.
  - Do not accept conference or journal submissions describing work whose states real-world app
  - Require in publications disclosures of military links through funding that is not explicitly from military sources   lications or aims are militaristic in nature.
  - Support one another to help transition away from defencebased funding sources, even where the research is not explicitly military in nature

What responsibility do we have?
-Resisting Capitalism

- The Tyranny of Scale(): the rich become richer; the poor become poorer.

- Labor and Automation:
  - AI is replacing labor.
  - Researchers are building new tools to simplify the work is not releasing the pressure of workers. They work for exactly same hours even without the tools.

What responsibility do we have? -Resisting Capitalism

- Actions:

- Require disclosure of hardware and compute costs involved in obtaining experimental results and running systems.

- Require impact statements with paper submissions, following the example of conference such as NeurIPS, with specific attention paid to the impact on automation of labor, acquisition and use of data, and player tracking and modeling.

- Create specialized submission tracks for research which operates within technical resource constraints (e.g. fantasy platforms such as PICO-8) to encourage low-tech innovation, and tracks for optimizing existing techniques and systems.

- Support and expand existing artefact evaluation efforts, with incentives for open-sourcing work, and expand initiatives like the CoG Short Video competition that encourage outreach and communication of research

What responsibility do we have?
-Building A Better Academy

- There are many, Causes: an overly conservative adherence to tradition, and a deeply interconnected set of exploitative systems that govern our careers.

- Ex.Peer review:
  - a 2014 study of NeurIPS reviews showed that 57% of accepted papers would have been rejected if the review process was rerun
  - However, game AI research field is young, so we are able to build our Academy better.

  - [To each other](#)

What responsibility do we have?
-Building A Better Academy

- Actions:

- Collectively boycott conferences that do not publish a robust and enforceable Code of Conduct, or which fail to enforce it.

- Collectively boycott conferences that are not open access, and that do not provide free public streams or recordings of talks (where authors agree).

- Collectively boycott conferences that do not allow remote presentation.

- Create opportunities for academics to redistribute funding.

- Create space for previously-published papers to be presented again (and possibly included in the proceedings) of conferences such as AIIDE and CoG, where the paper was originally published in a regional or national event in parts of the world that are underrepresented in our community.

Conclusion

- Not easy to change the situation but Try our best ☺