ROYAL STATISTICAL SOCIETY

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POST-ELECTION BRIEFING: BALANCING AI INNOVATION AND REGULATION

RSS manifesto ask

An investment of £250 million over the next parliament for AI (artificial intelligence) open-source development including support for an open-source unit in government, an open-source fund for business and developing open-source software – to democratise AI and allow the UK to compete internationally.

Summary

The AI ecosystem is dominated by big tech companies who pursue closed-source approaches to AI (in that their code and data sources are not widely accessible to third parties). This risks reducing trust in the technology to the point where it becomes challenging for UK businesses to effectively innovate – and it is already challenging for these companies to compete with large multinational companies. Investment in open-source resources is important both to build trust and to enable UK businesses to compete.

What's the problem?

The market for AI is dominated by big tech companies – based outside the UK and with minimal democratic oversight. These companies have developed closed AI systems (using the public's data and copyrighted material). We believe that a reliance on closed systems and a lack of democratic oversight risks corroding public trust in the technology.

At the moment the AI ecosystem is dominated by a few big tech companies. They have developed closed-source AI applications – the most well-known example being Chat-GPT. Chat-GPT is a closed AI system in the sense that the system's software is securely held by OpenAI and is only shared with a limited set of partners for the purpose of vetting. The company provides access to the AI interface as a service, but the process by which Chat-GPT produces its responses to queries is closed to wider scrutiny. This means, for example, that the public do not have access to information about the data that has been used to train the AI model (and owners of data cannot easily check whether the system is using their proprietary information).

This is problematic for two main reasons. First, the size and power of the big tech companies makes it a very hard environment for new, UK-based AI companies to compete. Advancing openness in the approach to AI is important for enabling competition – open-source approaches breed innovation, transparency and trust and UK businesses that promote these values need to be empowered to compete against multinational behemoths.

Second, the closed approach makes it harder to identify negative impacts of AI systems. There is limited diversity in the people developing AI – the tech industry remains predominantly white and male – and this can feed through both in terms of datasets used to train AI models (if you have biased inputs, then you are liable to have biased outputs) and in terms of a low awareness of alternative perspectives, which means that AI products may not be especially nuanced in communicating with people from a range of cultural backgrounds. With a closed approach it is impossible for the public or external experts to assess the inputs of an AI system with an eye towards potential adverse impacts. We have seen this repeatedly with how statistics and data are used that this lack of transparency breeds low trust – if the UK is to benefit from AI innovation it is vital to consciously cultivate trust in the technology.

How to fix it

Investing in open source is important for two reasons: first, it would allow the UK to scale-up AI systems and compete internationally with big tech companies and China; second, the open approach is important for transparency and building trust in the technology.

We call on the government to invest £250 million over the parliament in open-source development to:

- Support a government-funded unit of open-source developers who would:
    - Contribute to open-source software projects of strategic importance to the UK.
    - Provide internships to help build and transfer skills.
    - Support the use of open-source in the UK through knowledge sharing, training and building the community.
    - Collaborate internationally with similar projects such as OLMo (open Language Model) at the Allen Institute for AI.
    - Disseminate knowledge about large language models within the UK tech community.
- Introduce a new Fund – modelled on Germany's Sovereign Tech Fund and Prototype Fund – to support open source projects outside government.

- Support the development of open-source software.

To have maximum impact this investment would need to be carefully targeted on the needs of the UK community – it should not be used on things that already exist or that are easy for companies to build themselves.

One criticism of open-source approaches to AI is that they come with greater risk of abuse – that there are greater security risks than with closed systems. It is true that there are risks associated with open-source AI. However, that should not be an argument for not backing it in the ways we have set out – it is an argument for being cautious and regulating in a manner that works for open-source approaches. We would note that there are also risks associated with the closed approach: closed models can be abused by bad actors (and it is harder to see when this might happen) and deployed without full awareness of the system's biases and potential adverse impacts. A black box approach, with a few big tech companies acting as gatekeepers, has its own risks and is not a sensible path forward.

It is important, though, that while investing in open source the government emphasise backing systems that are easy to use and easy to trust. Combined with a competitive market environment, an open approach to AI can help ensure that advancements are accessible, inclusive and transparent.