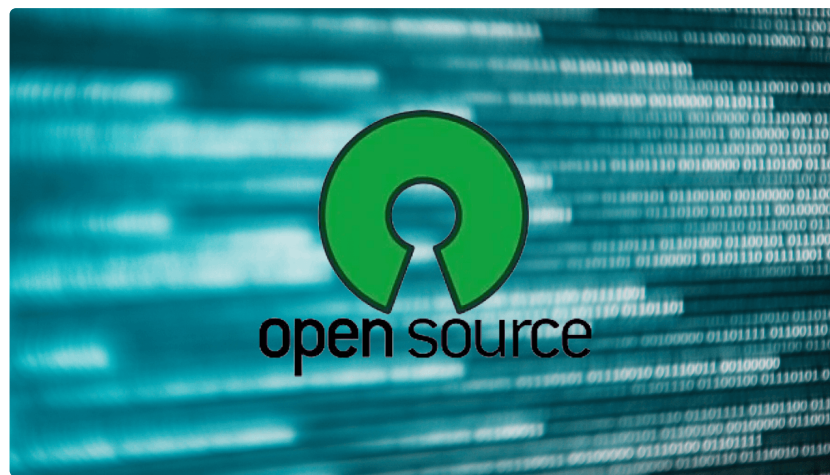ARTIFICIAL INTELLIGENCE

European and UK startups lead the way in open source AI despite the looming threat of regulation

Open source AI startups and scaleups in Europe and the UK play a pivotal role in the future of AI despite challenges defining and regulating open source AI.

Cate Lawrence
5 hours ago

If evidence was ever needed, this week sees the power of the open source movement in AI, positioning European and UK startups and scaleups in a highly competitive position – despite the looming threat of the EU Artificial Intelligence Act, set to be passed later this year.

This week, Meta made an open source commercial version of its large language model (LLM), Llama 2, available free of charge for research and commercial use.

Attracting broad industry support, the release is a step forward in democratising AI, decentralising access to necessary tools outside of a few big companies and accelerating the scope for innovation.

Meta previously released an earlier iteration, LLaMA, In February, a collection of models capable of generating text, under an open-source, non-commercial licence for research purposes, granting academics access on a case-by-case basis. But the code was leaked online with instructions on downloading it posted on GitHub and 4chan.

A leaked memo written by a member of Google staff asserts that as result, "they effectively garnered an entire planet's worth of free labour."

But it makes another important statement — smaller, fine-tuned models can outperform larger models, as the employee writes, "eating our lunch."

Open source startups and scaleups in Europe and the UK are shaking up AI successfully even in their nascent stages. Europe is home to a plethora of startups in the space, including:

There's also the not-for-profit research lab Eleuther.ai.

I spoke to Florian Leibert, General Partner at **468 Capital**, a VC firm based in Berlin and San Francisco.

Amongst previous roles, he founded and led open source cloud-infrastructure company Mesosphere (now D2iQ) as CEO for 6+ years, raising $252 million in capital.

He sees a growth in interest in open AI, with the emerging MLOps category a key area of focus, asserting;

> "We're experiencing firsthand what a open source can do and is doing to transform and accelerate.We've been investing in a mirror image of the DevOps stack over the past decade, replicating that in the MLOps world.
>
> We are anticipating that the landscape in and around LLMs will become much bigger than we've seen in DevOps."

This includes an investment in Germany AI company Aleph Alpha who raised $100 million this year.

Solidifying the talent and presence of AI companies in Europe, Aleph Alpha has developed a contender to ChatGPT with its AI assistant capable of writing, understanding, and evaluating texts.

Leibert notes that while the centre of gravity for investment is "probably still the US", there's been a strong growth in open source offshoots from larger enterprises.

Let's not forget earlier this year we saw French company Mistral, featuring alumni from Deepmind, Hugging Face, and Meta Open Source solutions for enterprises, raise $100m despite being in existence for merely weeks.

The UK's most successful open AI code repository is one you've probably never heard of

In the UK, the leading UK Open Source AI repo is from Significant Gravitas.

A small Scottish company founded in 2018, it has developed Auto-GPT, a semiautonomous variant of ChatGPT.

With a community of over 250 contributors, Significant Gravitas' repo is now number one in the UK and the second AI project to gain 100,000 stars on GitHub, and

It trumps industry stalwarts like StabilityAI, Google Deepmind, and Unity.ai.

The data, compiled by Runa Capital, is part of OpenUK's recently launched report, State of Open The UK in 2023: Show us the money – AI Openness, tracking the opportunities for the UK to lead in the opening of AI.

OpenUK is a NFP organisation focused on Open Technology: software, hardware and Open Data across the UK. Its purpose is UK leadership and global collaboration in Open Technology.

I spoke to CEO Amanda Brock, who asserts that when it comes to open source, "the way that we collaborate is something that every space needs to do now. There's lessons on how to collaborate and compete at the same time."

In the case of open source AI this includes:

> *.. "understanding IP management, how you bring competitors to the table, how you can build something collaboratively that saves money, and will still allow you to compete at the top level, further up the stack.*
>
> *If we look at different verticals, there's room for sectors to collaborate and remove a lot of the innovation costs and improve the quality of the innovation. There's also the ability of the long-term collaborative community to work across geopolitical borders".*

But there are two pain points that the open source community is grappling with, how we define and regulate open source AI.

But what do we mean by open source?

Part of OpenUK's work is standardising what open source means in practice. What happens when accepted community practices change, or open source closes?

Elon Musk lamented earlier this year that "OpenAI was created as an open source (which is why I named it "Open" AI), a non-profit company to serve as a counterweight to Google, but now it has become a closed source, maximum-profit company effectively controlled by Microsoft."

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Even OpenUK admits that Meta's Llama 2 licence is not approved by the Open Source Initiative, and in its current format, would not meet the requirements of the Open Source Definition.

However, the OSI is currently working through a consultation to define "Open Source AI" is, looking to a shared set of principles that recreate the permissionless, pragmatic and simplified collaboration of open source for AI practitioners.

How should we regulate open source AI?

And, when it comes to regulating AI, open source researchers, practitioners, startups, and investors are worried.

The EU Artificial Intelligence Act is coming into practice later this year. However, concerns persist in the open source AI community regarding how regulations will be applied and their impact on European companies.

A 2022 survey of over 100 high-tech European AI startups which drive AI innovation by developing diverse AI systems and 15 VC firms in Europe reveals trepidation in the new legislation.

50 percent of the startups surveyed are concerned that the AI Act will slow down AI innovation in Europe, and 73 percent of the surveyed VCs expect that the AI Act will reduce or significantly reduce the competitiveness of European startups in AI.

Further, about 33 – 50 percent of the surveyed startups would classify their AI Systems as high-risk under the current classification and, therefore, will be subject to the EU AI Act's obligations. This exceeds the assumptions in the EU's Impact Assessment of the AI Act (5-15 percent).

Unsurprisingly, Thomas Dohmke, the CEO of GitHub, is concerned with the company authoring a position paper on the incoming legislation.

In a speech earlier this year at the EU Open Source Policy Summit in Brussels, he notes that alongside, Open source has been at the core of AI development with tools like GitHub's Copilot X :

> *"Open source frameworks like PyTorch and TensorFlow power nearly all of AI, and open source tools have helped improve transparency and remove bias for years.*
>
> *And now, AI models are built and shared on open source. The OSS community has been and will remain critical to the advancement of AI."*

He asserts that open source developers should be exempt from the AI Act.

The compliance burden should fall on entities shipping products. OSS developers are often volunteers. Many are working two jobs. They are scientists, doctors, academics, professors and university students alike. They don't usually stand to profit from their contributions.

And they certainly don't have big budgets and compliance departments!"

OpenUK also highlights a bigger challenge: that ML regulation and judicial decisions will not be consistent from country to country:

"This is bad for open, which benefits from globally-sized communities. If communities need one open model for the US, another for Europe, another for China, etc., then many of the collaborative benefits of open will be lost."

Europe and UK's startups and scaleups are in pole position right now as global leaders in open source AI, despite the looming threat of the EU Artificial Intelligence Act.

Moving forward, fostering collaboration, competition, and practical (not excessive onerous or punitive) regulation will be vital to sustaining the momentum of the open source AI movement and ensuring a vibrant and innovative AI ecosystem in Europe and the UK.

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