

## **ELISE Network publishes research agenda for a European AI Powerhouse**

European Learning and Intelligence Systems Excellence (ELISE) has today published its latest Strategic Research Agenda, setting a roadmap for Europe to build a powerhouse of AI and to secure the long-term success of this innovation ecosystem.

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Machine learning and AI are advancing at pace. Recent progress in Large Language Models signals the increasing power of AI technologies, and the widespread transformation of economics and society that could follow. To secure strategic advantage in AI, Europe's research and innovation ecosystem needs a framework for creating AI technologies that are technically sophisticated, safe and effective in deployment, and aligned with societal needs, supported by collaborations that translate technological progress to public benefit.

European Learning and Intelligence Systems Excellence (ELISE) is a consortium of AI research hubs that connects Europe's leading researchers in machine learning and AI. ELISE's update to its Strategic Research Agenda, published today, provides a bridge between European policy priorities and the frontiers of AI research.

"As machine learning and AI become more powerful and are adopted across sectors, it is more important than ever that Europe is at the forefront of AI development," says Professor Samuel Kaski, ELISE Coordinator and Professor of Computer Science at Aalto University and the University of Manchester. "The first phase of ELISE's work has already nurtured a thriving research and innovation community, demonstrating how investments in excellent research that is connected to local innovation ecosystems can advance the technical capabilities of AI technologies, enhance their trustworthiness, and accelerate their deployment in the real world."

In its first three years of operation, ELISE has supported innovation and entrepreneurship, helping deploy machine learning-enabled solutions to real-world challenges in areas from cancer diagnosis to critical infrastructure management. It has generated new research insights and applications, delivering AI innovations to inform public health policy, analyse the impact of climate change, and accelerate scientific research. Working with the ELLIS consortium of European AI labs,<sup>1</sup> it has also built an infrastructure for attracting top talent to Europe, through a world-leading PhD programme and through mobility programmes that enhance European collaboration. The result is a vibrant European machine learning community, that is both well-connected across Europe and actively engaged in delivering real-world benefits for businesses and society at a local level. This network reaches researchers across Europe through its existing 14 research programmes and collaboration with ELLIS, a growing network that now supports 39 research units in 14 countries.<sup>2</sup>

ELISE's 2021 Strategic Research Agenda showed how the network was driving the development of new techniques for trustworthy AI; security and privacy; explainability; AI integration into existing systems; and human-centric, responsible AI. The update published

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<sup>1</sup> ELLIS - the European Laboratory for Learning and Intelligent Systems - is a pan-European AI network of excellence which focuses on fundamental science, technical innovation and societal impact. For further information, see: <https://ellis.eu>

<sup>2</sup> For further information, see: <https://ellis.eu/news/four-new-units-join-the-ellis-network>

today goes further in connecting policy and research priorities, setting out the important role that AI could play in delivering the EU's Innovation Missions and the technological progress needed to ensure progress in AI benefits society.

“Achieving strategic advantage in AI requires a strong AI research and innovation ecosystem, bolstered by collaborations that connect AI's technical frontiers to areas of need”, says Jessica Montgomery, University of Cambridge. “In 2021, our Strategic Research Agenda set out ELISE's vision of a Powerhouse of European AI. Today's Refresh takes stock of how policy priorities and technological capabilities have changed over the last two years, highlighting opportunities for further research and innovation” adds Professor Neil Lawrence, University of Cambridge, “to continue to deliver this vision, we need a new wave of AI research to create innovative AI tools, advance their application, and ensure the benefits of this technology are shared across society”.

For further information about the 2023 ELISE Strategic Research agenda please:

- Visit the Strategic Research Agenda website at: <https://www.elise-ai.eu/sra-refresh/strategic-research-agenda-refresh>
- View a pdf of the document at: [https://uploads-ssl.webflow.com/5f55e90f6a7294f66f94d30d/6465001851b03055106ba1b5\\_ELISE-SRA-refresh-2023-web.pdf](https://uploads-ssl.webflow.com/5f55e90f6a7294f66f94d30d/6465001851b03055106ba1b5_ELISE-SRA-refresh-2023-web.pdf)