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# Ant International and NTU Singapore collaborate on privacy-enhancing technologies

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**A**nt International and Nanyang Technological University, Singapore (NTU Singapore) have announced a five-year collaboration to strengthen digital economic growth in the Asia Pacific region. They will conduct breakthrough research to advance digital trust using privacy-enhancing technologies (PETs).

Senior minister of state Tan Kiat How, Ministry of Digital Development and Information, witnessed the signing of the Master Research Collaboration Agreement (MRCA) between Ant International and NTU Singapore, represented by Jerry Yin, chief technology officer of Ant International and Lam Khin Yong, vice president (Industry) at NTU Singapore. The signing was carried out on 16 July at the Personal Data Protection (PDP) Week in Singapore.

Under the MRCA, Ant International will collaborate with NTU Singapore's Digital Trust Centre to advance the development of PETs in Singapore and the region. These technologies aim to help businesses unlock greater value from their data and create more use cases. Additionally, the development of PETs for artificial intelligence (AI) will enhance digital trust and make AI more reliable. This will be achieved by minimising the risk of data leaks, allowing businesses to share data and gain valuable insights without disclosing confidential information.

Ant International will commit to contribute up to SGD 20 million (\$14.9 million) over the next five years to support research on PETs.

Under this MRCA, Ant International will contribute a total funding amount of SGD 5 million (\$3.7 million) for the five-year partnership until July 2029. In addition to providing research funding for the MRCA, Ant International also intends to contribute a further SGD 15 million (\$11.1 million) to strengthen Ant's research capacity and subject matter expertise, to enhance the country's overall research and development and drive responsible innovation in Asia by leveraging PETs.

During the collaboration, which will be based in NTU Singapore, researchers will have access to real-life use cases from Ant International for their projects, which will focus on advancing industry tools and processes for machine learning and secure insights sharing between businesses. This will be achieved through the use of advanced privacy-enhancing technologies such as zero-knowledge proofs [Zero-knowledge proofs allow one party to prove to another that a statement is true without revealing any information beyond the validity of the statement itself.] and federated learning [Federated learning is a machine learning technique that enables multiple organisations to collaborate on training an AI model without sharing their actual data.]. As researchers deepen their expertise in PETs through their projects, the aim is also to develop a team of specialised talents.

Ant International and NTU will also study topics related to large language models [Large language models are models designed to protect sensitive information while processing training data or user queries, ensuring that personal or confidential data is not exposed.] (LLMs) that preserve user privacy while training or querying LLMs. Both parties will present their findings at leading conferences focused on AI safety.

A joint research committee will also be established to oversee projects conducted under the agreement. Duan Pu, Ant International's head of data algorithm and technology department, and Lam Kwok Yan, executive director of the Digital Trust Centre at NTU Singapore, will serve as co-chairs of the committee.

The MRCA builds on an existing collaboration on privacy-preserving computing between NTU Singapore and Ant Group, which saw the development of a new state-of-the-art Private Set Intersection (PSI) protocol that allows businesses to carry out joint database analysis while maintaining the privacy of their respective data.

Tan Kiat How, senior minister of state, Ministry of Digital Development and Information, said: "Robust data protection is important for Singapore's digital economy. The Ministry of

Digital Development and Information has taken steps to strengthen our data ecosystem, including by encouraging the use of privacy-enhancing technologies (PETs). I am glad to see companies collaborating with our Institutes of Higher Learning to develop PETs and nurture data protection talent. Such partnerships help us advance the development and adoption of data protection tools in Singapore and the region.”

Jerry Yin, chief technology officer of Ant International, said: “Ant International is pleased to expand our collaboration with NTU, through this longer-term partnership. As a global digital payment and financial technology provider, data privacy is a core part of our business as we aim to provide merchants with secure, reliable and seamless solutions. By leveraging NTU’s academic expertise and Ant International’s industry experience, we look forward to advancing the development of PETs with new innovations that address real business needs.”

Khin Yong said: “Through its Digital Trust Centre, NTU Singapore has built upon and fostered expertise and talent in Trust Technologies. The collaboration between NTU Singapore and Ant International, a leader in global digital payments and fintech, underscores NTU’s commitment to translating research innovation in the area of PETs into practical applications. Together, both parties will aim to pioneer innovative solutions that strengthen digital trust and security, empowering businesses to responsibly leverage data for transformative outcomes.”

Organised by Singapore’s Personal Data Protection Commission (PDPC), PDP Week convenes regional regulators/policymakers, industry leaders and international think-tanks to connect and collaborate on data use and technologies, including PETs.

*Re-disseminated by The Asian Banker*



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