

Strengthening cyber-security defences

Two centres will design privacy tech to keep data safe, provide businesses with solutions

Cheryl Teh

Two research centres have been set up to look into designing privacy technologies that can protect data throughout its life cycle and separately, provide businesses with off-the-shelf solutions to keep their data private.

The centres, at the National University of Singapore (NUS) and Nanyang Technological University (NTU), have been given \$22 million in total. Their mandate: to keep private data private in the era of the Smart Nation. Both centres were set up by the National Research Foundation Singapore.

The Strategic Centre for Research in Privacy-Preserving Technologies and Systems (SCRIPTS), based at NTU, will be led by Professor Lam Kwok Yan, programme chair (secure community) at NTU Graduate College.

The NUS Centre for Research in Privacy Technologies (N-CRiPT) will be affiliated with the NUS

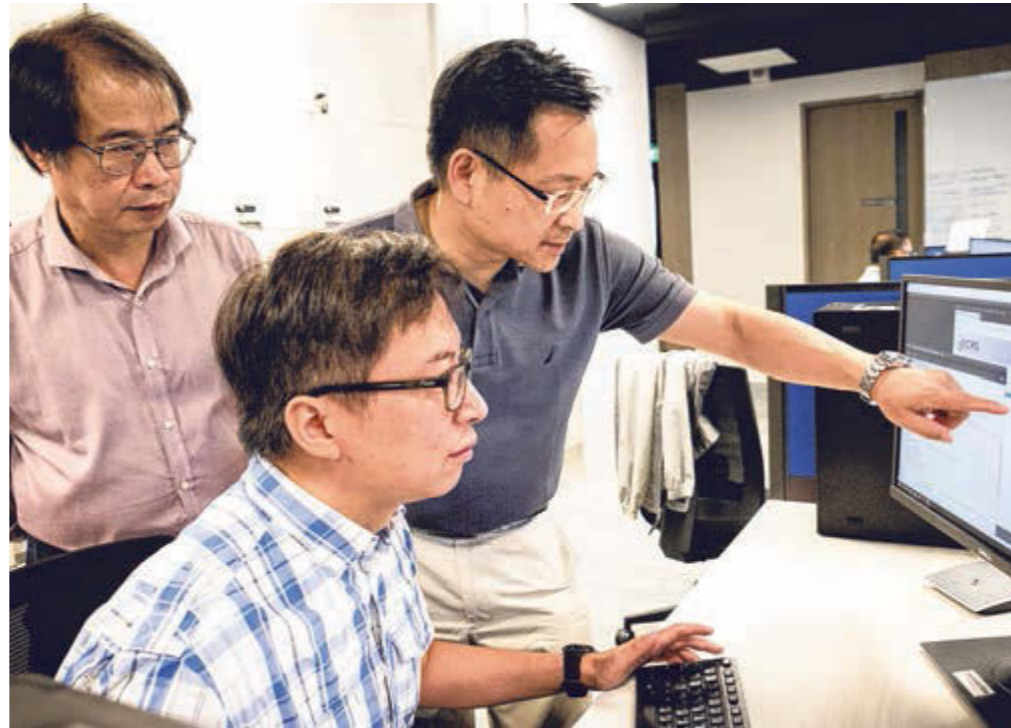
Smart Systems Institute. The centre will be led by Professor Mohan Kankanhalli, dean of the NUS School of Computing.

N-CRiPT will work on preventing privacy leaks and coming up with solutions to protect data throughout its life cycle – from when it is created, to the point of its collection and curation, and all the way to its analysis and archiving.

“Privacy has been pushed to the forefront, especially with the recent cases of the SingHealth data breach, and the case of Cambridge Analytica, which affected people worldwide. There are two issues to be addressed here – security and privacy,” said Prof Kankanhalli.

In the Cambridge Analytica case, the firm was accused of taking the personal information of millions of Facebook users without permission to influence the United States election in 2016.

Prof Kankanhalli said his team of 16 researchers is working to develop cutting-edge technology to prevent breaches.



Professor Lam Kwok Yan (in dark blue), senior research engineer Dr Victor Chu (seated), and Associate Professor Wang Huaxiong from Nanyang Technological University, discussing strategies for cyber-security solutions.

PHOTO: NANYANG TECHNOLOGICAL UNIVERSITY

“There is no magic wand that can solve all cyber-security problems. For different kinds of data, and the different adversaries working to obtain information of varying value, some solutions are already avail-

able, and some are not.”

For instance, technology developed by N-CRiPT might one day be used by health agencies and researchers to analyse medical data from clinics, or to study travel pat-

terns obtained from transport and telecom companies without compromising an individual’s privacy.

Meanwhile, NTU’s SCRIPTS will provide businesses with off-the-shelf solutions for privacy and

computing.

It will collaborate with Singapore cyber-security company i-Sprint Innovations to develop an e-logistics solution that will prevent counterfeiting, while ensuring commercial information remains private.

The centre said this solution can be used for fast moving consumer goods, pharmaceutical and health products, luxury products, food supplies and more.

A large amount of data is needed to develop more accurate analysis and insights. Prof Lam said SCRIPTS will develop ways for data to be collected and still protect the identity of individuals, thus ensuring their privacy.

“We at SCRIPTS will leverage on NTU’s multidisciplinary research expertise in the areas of AI, data science, mathematics and cryptography, to investigate how we can solve privacy-preserving problems,” he added.

“This tech, when developed, will enable the sharing of data without compromising privacy, thus allowing a bigger data set to be available, from hospitals, financial institutions and other businesses.”

tienli@sph.com.sg