Horizontal Technology Programme Office

INFECTIOUS DISEASES

ID HTPO SEMINAR SERIES

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Join zoom meeting **here**
Meeting ID: 862 9033 0435
Passcode: 804704
Monday, 23rd May 2022
1:00pm to 2:00pm (SGT)

Webinar is open to all
No registration required

Blockchain: the Cross Road of Trust in Architecting Solutions for Data Integrity

With the prevalence of public and private cloud services, data integrity is increasingly becoming a crucial requirement of enterprise solutions. Hence, as the architects of such solutions, we need to exercise great caution in the search of the right methods that meet the specific data integrity requirements of a particular solution. This is because, different methods adopt different assumptions of which some might not be a good fit for a specific application or might be in violation of certain enterprise policy. In particular, the assumption of trust plays a decisive role in the adoption of right methods to safeguard the integrity of the data. The inception of the Blockchain has enabled the solutions architects to categorise data integrity mechanisms into trustless and trustful approaches. In this talk, we first expand on these two categories of data integrity solutions. Then we explain the opportunities and challenges that cloud computing presents to data integrity, and how Blockchain plays a role. Finally, we conclude our talk by providing a data integrity problem statement in the health sector. Specifically, we pick the scenario of self-administered Antigen Rapid Test (ART) and discuss multiple data integrity challenges and potential opportunities.

Leonit Zeynalvand is a computer scientist and an AWS certified solutions architect. He joined the department of cybersecurity at I2R in 2020 and ever since has been consulting the colleagues both in the team and through knowledge sharing channels with his expertise in software and network architecture, cloud computing, data science, and distributed ledger technologies. Leonit holds a PhD in computer science from the Nanyang Technological University of Singapore where he has designed and developed a framework for Blockchain-enabled security mechanisms to mitigate the effect of Sybil attacks and misinformation in social Big Data. Moreover, his PhD work has led to the development of machine learning solutions for large-scale multi-agent systems to carry out accurate trust and reputation management and to increase the credibility of crowd-sourced data.