NITheCS Colloquium
Monday, 13 September 2021, 16h00
Dr Sydney Kasongo | *Stellenbosch University*

"Genetic Algorithm in Domain of Intrusion Detection Systems"

ABSTRACT

The evolution of the Internet and cloud-based technologies have empowered several organizations with the capacity to implement large-scale Internet of Things (IoT)-based ecosystems, such as Industrial IoT (IIoT). The IoT and, by virtue, the IIoT, are vulnerable to new types of threats and intrusions because of the nature of their networks. So it is crucial to develop Intrusion Detection Systems (IDSs) that can provide the security, privacy, and integrity of IIoT networks. In this presentation, we demonstrate the implementation of an IDS for IIoT that was implemented using the Genetic Algorithm (GA) for feature selection, and the Random Forest (RF) model was employed in the GA fitness function.

BIOGRAPHY

Sydney Kasongo was born in a small mining town called Likasi, in the South of the Democratic Republic of Congo (DRC). He obtained his bachelor's degree (BTech) in Computer Systems from the Tshwane University of Technology (TUT) in 2015 and his Master's degree (MTech) in Computer Systems (cum laude) from TUT in 2017. In 2020, he obtained a Ph.D. in Electrical & Electronic Engineering from the University of Johannesburg (UJ). He is a fitness enthusiast and loves Formula 1.

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