NUS SOC Summer Workshop 2021
Algorithm, Cloud & Security
Simulation – Allowing "What if" Scenarios
Course Information

Pre-requisites

- 🐯 Which year of study is appropriate for your topic?

  Year 2 onwards.

- 🐯 What background and programming languages are required for your topic?

  knowledge of Probability and Statistics, C or JAVA programming language.

- 🐯 What do you think is attractive/unique about your topic to students?

  Simulation is used in almost every industry. This course provides good background knowledge of how simulation works and how it can be applied in industry.

Learning content and Teaching

- 🐯 What will be covered during "trial" lectures?

  We will cover the basic introduction to modelling and simulation.

- 🐯 What will be covered during the "advanced" seminars?

  We will cover the main topics of simulation such as input data modelling, validation and verification, output data analysis, experimental design. We will also introduce one or two simulation package (Arena, and Flexsim)

- 🐯 What will be the nature of the project work? How do you intend to split students into project groups, each consisting of 3 or 4 students?

  Students will be divided into groups of 3 to 4 to work on project assignments. Groups will be able to select from two different projects to work on. Group consultation will be provided over the course of the 2 weeks.

😈 Do you have any recommendations for references (books) students can study to prepare for your topic before coming to NUS?

Discrete-event System Simulation by J. Banks, J. Carson, B. Nelson, and D. Nicol, 5th Edition, Pearson, 2014

😈 Besides their own personal laptops, what other equipment or software would students need for your topic?

Students will need to download the Arena software.

Assessment

😈 What forms of assessment will there be?

There will be a quiz in the middle of the course. There will be a main project that includes a final presentation of their project findings.