

Universiti Teknologi MARA

**Self-Similar Network Traffic Using Successive
Random Addition (SRA) Algorithm**

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Title: **SELF-SIMILAR NETWORK TRAFFIC USING
SUCCESSIVE RANDOM ADDITION (SRA) ALGORITHM**

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ABSTRACT

Self-similar traffic has an underlying dependence structure which exhibits long-range dependence. This is in contrast to classical traffic models, such as Poisson, which exhibit short-range dependence. Self-similar traffic may also exhibit short-range dependence, but this is on its own insufficient to accurately parametric the traffic. Studying self-similar traffic requires models for analytical work and generators for simulation. Having generating algorithms that close to reflect real traffic is important as they allow us to perform simulations that are similar to the real network traffic. Without this, the results from simulations would not accurately reflect the results that would be expected in the real world. In this project, we have used the Successive random algorithm (SRA). Then, we have decided to use Variance time plot and R/S statistics as our statistical analysis tools. We have test the sample path between $0.5 < H < 1$. After we test on the SRA algorithm, we found that the results are not accurate. But compares to RMD, the SRA samples result be more accurate. In term data generation, SRA be slower than dFGN.

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