

# The Gillespie Algorithm

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June 2, 2017

## **Abstract**

How can one numerically simulate large stochastic networks? Perhaps one would go through each node in the network and update its state with a probability dictated by the definition of the model. This may not always be very efficient and can also lead to biases. The Gillespie algorithm provides a great alternative. I will present its merits and its implementation. The talk will close with the illustration of the Gillespie algorithm for an adaptive stochastic network dynamics, namely the SIS model with rewiring.