

Instructions for executing the Simultaneous Type, Serial Token model as published in Bowman & Wyble (2007)

Core Files

architecture.m - Defines the neural network
inputpatterns.m - Defines the RSVP structure
generateinput.m - Convert an RSVP stream into time steps of input
runRSVP.m - runs a set of RSVP streams for lags 1-8
perfcheck.m - Evaluates performance of the model for a single trial
evaltargs.m - Evaluates performance for a series of trials

Utility files

bigbattery.m - executes a series of trials over values of T1 and T2
showneurons.m - shows the activity of the network.
binderview.m - shows the activity of the binding pool
summatecheck.m - Used to separate recorded neuronal activation by seen/missed
runModel.m - batch file that runs the model using the specified conditions first in 100ms then 50ms SOA

Special Conditions:

To add priming from the T1+1 distractor to T2, uncomment the indicated line (line 274-283) in *architecture.m* which will add an excitatory connection in the item layer.

The 50 ms condition involves changes to the RSVP stream, as well as a single parameter change in architecture (the connection from layer 1 to layer 2 is increased), as specified in the paper.

Running the model:

To run the model, just execute *runModel.m* which simulates 3 experimental conditions: basic blink, T1+1 blank, T2+1 blank at 100ms and 50ms SOA. Parameters in this script determine what conditions are simulated.

The results of the simulation are stored in two mat files named STSToutput_50ms.mat and STSToutput_100ms.mat.