

Ambiguity Resolution in a Spiking Network Model of Sentence Comprehension

Submission ID 3000125
Submission Type Poster
Topic Cognitive Science
Status Submitted
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SUBMISSION DETAILS

Presentation Type Either Poster or Oral Presentation

Presentation Abstract Summary Sentence processing involves the real-time combination of word input into a stable semantic interpretation. How does the human language system accomplish this feat in light of massive lexical and structural ambiguity?

Here, we model sentence comprehension using an untrained recurrent network of biologically realistic neurons with static, sparse connectivity. A linear readout device maps internal network dynamics, generated by sentence input, onto semantic relations (who did what to whom).

Results suggest that ambiguity resolution could be achieved with strictly local, adaptive neuronal memory.

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Keywords

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neurobiology of language
spiking neural network
sentence processing
semantic role labeling
ambiguity resolution