
APPENDIX 2

NETWORK ANALYZER

A2.1 Introduction

This appendix gives a brief overview of the Network Analyzer software, which has approximately 10,000 source lines of code¹ and was used for the analysis work in this thesis. There has been no formal release of Network Analyzer, but the source code is included in the Supplementary Materials. A brief overview of the main features of this software now follows.

A2.2 Representation Analyzer

Representation Analyzer identifies representational mental states in the network using the method set out in Section 7.3.3. It includes 2D and 3D plotting tools to display the mutual information between neurons at different steps back in time.

¹ Calculated using Wheeler's SLOCCount software. More information about Wheeler's measure can be found at: <http://www.dwheeler.com/sloc/>.

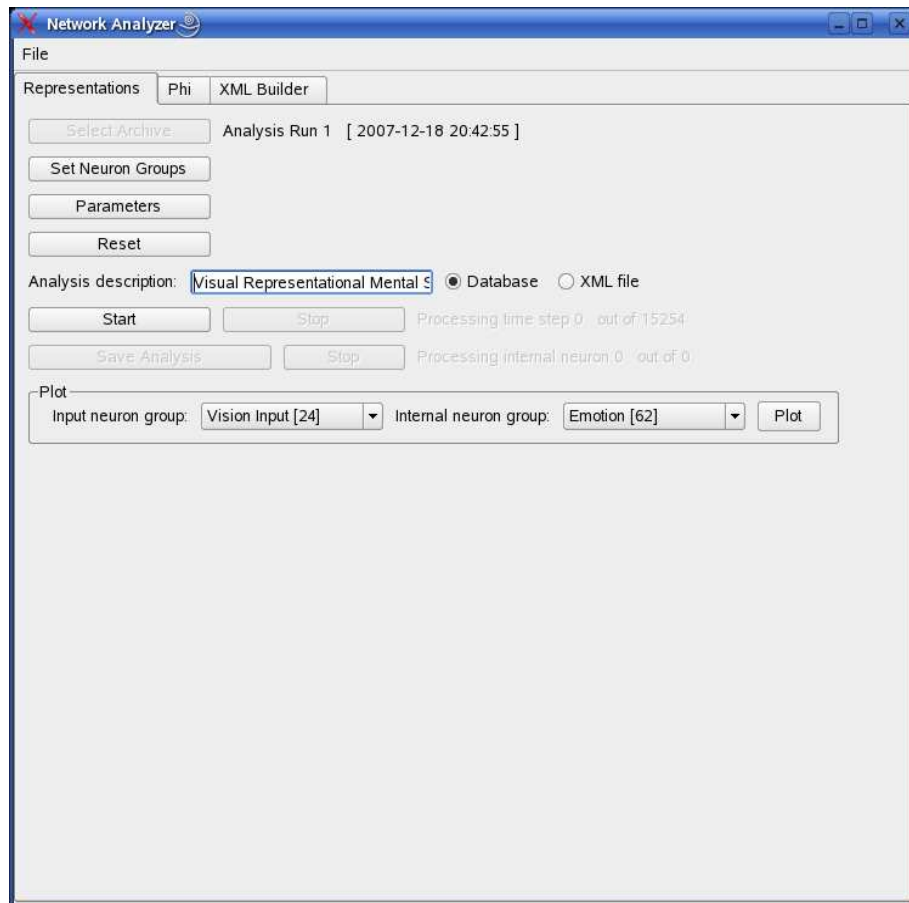


Figure A2.1. Representation Analyzer

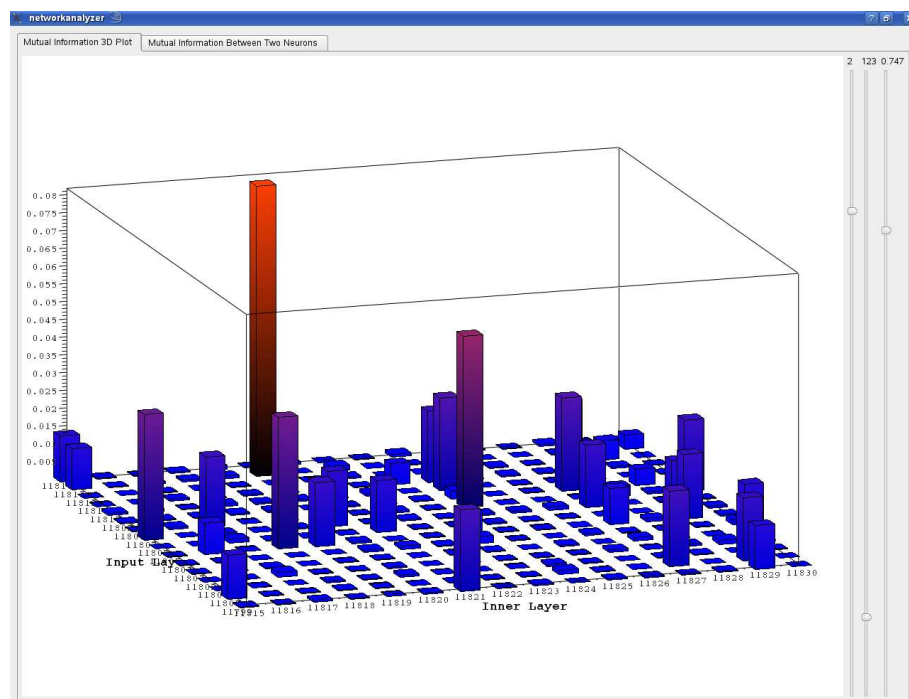


Figure A2.2. 3D mutual information plotter

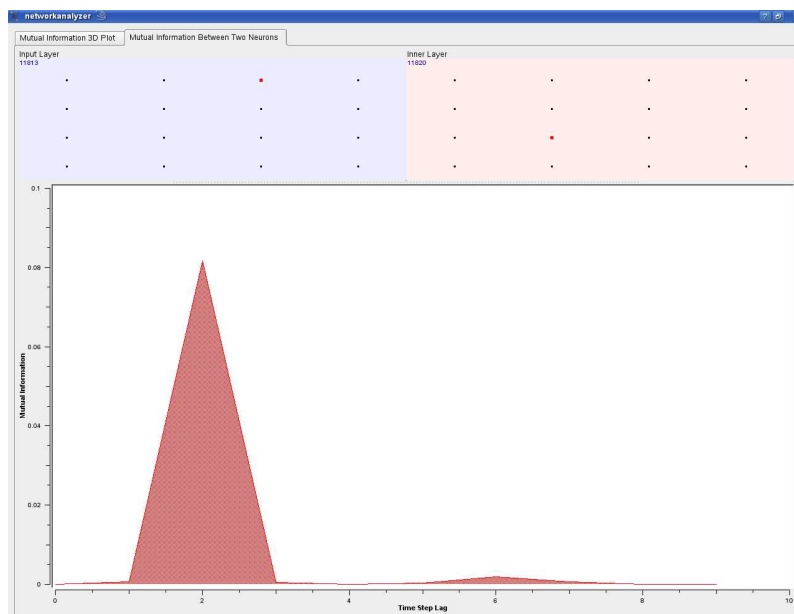


Figure A2.3. 2D mutual information plotter

A2.3 Phi Analyzer

Phi Analyzer identifies the complexes in the network using the method described in Section 7.4.2. The neuron IDs in a current subset or complex can be viewed and used to highlight the SpikeStream network.

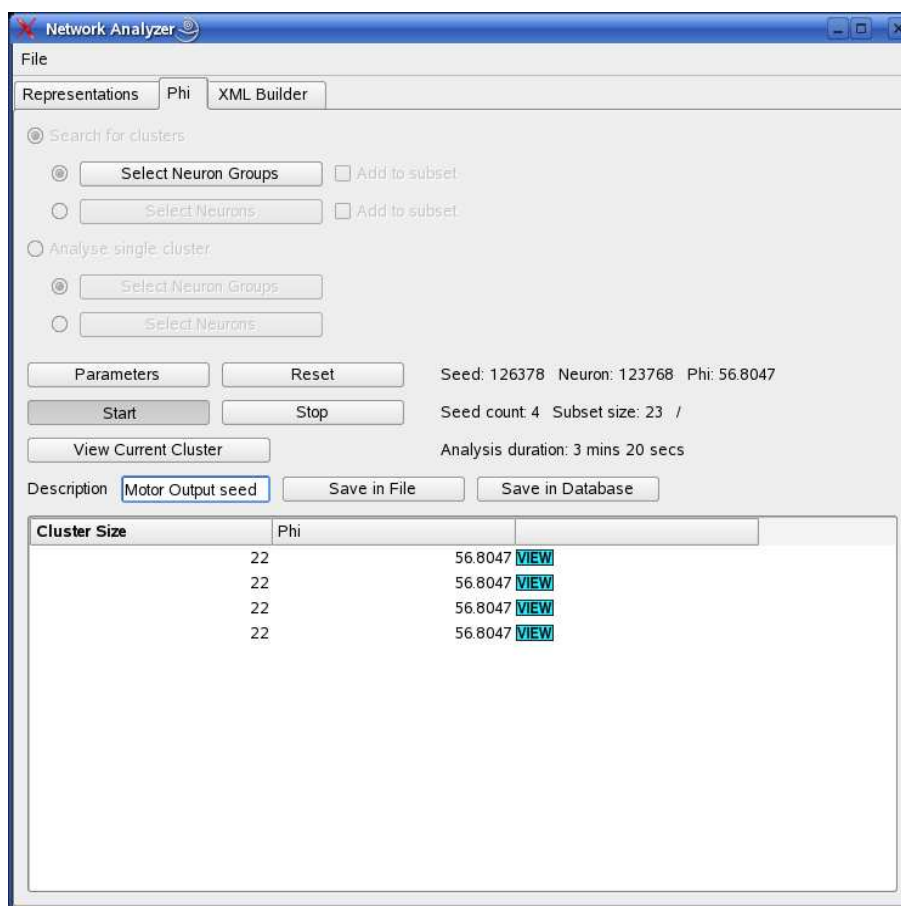


Figure A2.4. Phi Analyzer

A2.4 XML Builder

XML Builder was used to construct the final sequence of XML files that describe the predicted phenomenology of the network.

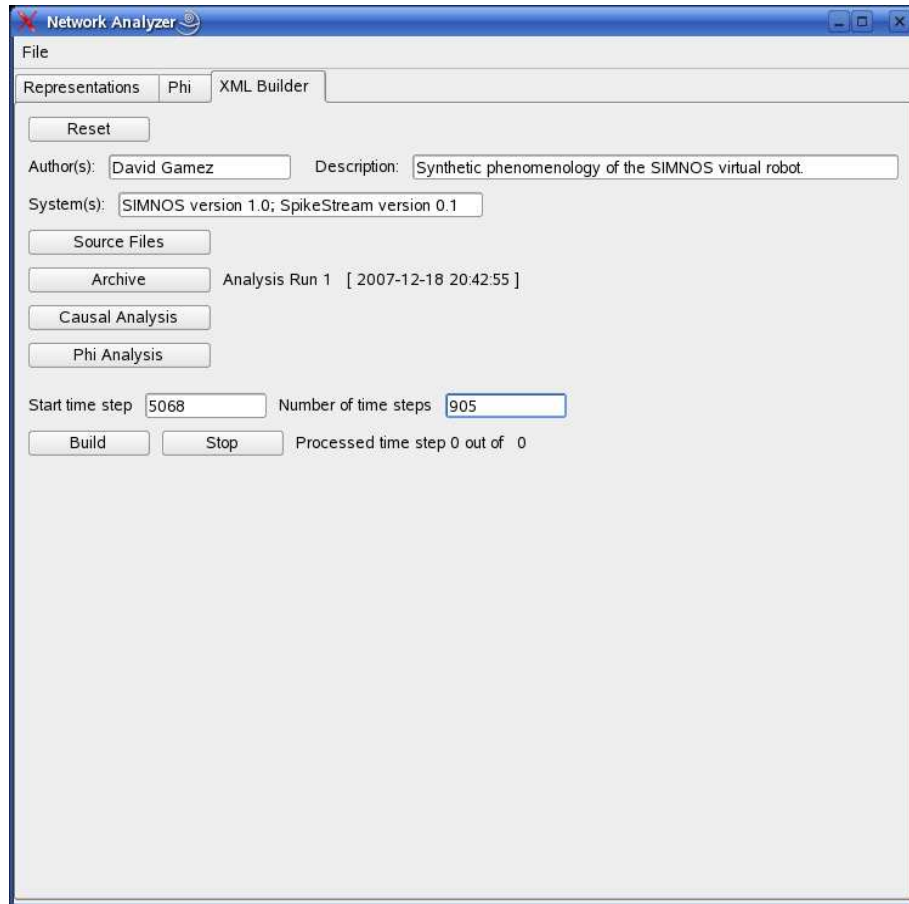


Figure A2.5. XML Builder