

BGL2015 Visualizer

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BGL2015 Visualizer is a prototype/demo of a possible interface for visualizing learning in a biobehavioral selectionist neural network of the type described in articles such as the following:

Donahoe, John W., Palmer, David C (1989). The Interpretation of Complex Human Behavior: Some Reactions to Parallel Distributed Processing, Edited by J. L. McClelland, D. E. Rumelhart, and The PDP Research Group. Journal of the Experimental Analysis of Behavior, 51, 399-416. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1338934/>

Donahoe, John W., Burgos, Jose E., Palmer, David C (1993). A Selectionist Approach to Reinforcement. Journal of the Experimental Analysis of Behavior, 60, 17-40. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1322144/>

The BGL2015 Visualizer is modeled on the following article:

Burgos, José E., García-Leal, Óscar (2015). Autoshaped choice in artificial neural networks: Implications for behavioral economics and neuroeconomics. Behavioural Processes, 114, 63-71. <https://www.ncbi.nlm.nih.gov/pubmed/25662745>

While there are several articles describing the structure and function of this particular type of neural network, there is no single source that describes everything needed to implement and use the network (yet). The reason for this is that, as José noted, publishers want to keep articles as short and clear as possible, and asked that what they considered extraneous detail be left out.

I would like to thank José Burgos for answering my questions about the network. There was one step in the update process I never did find in any article, so I did my software development “making shit up” thing and got it working to my satisfaction. José later confirmed that he also performed the update in the same manner (i.e., update the discrepancy signal generating nodes before all others).

BGL2015 Visualizer and the Xcode project with source will be available online at BASimulation.org in the near future.

Third Party Open Source Library

Core Plot: Cocoa plotting framework for OS X and iOS. Full source included with the [BGL2015 Visualizer source](#).

Third Party Paid Resources

BGL2015 Visualizer uses an icon collection that I bought, but whose icons are only licensed to be part of a binary application. The few individual icons that I used are distributed with the source of BGL2015 Visualizer with the permission of Icons8.

[Icons8](#)