The BigNeuron Project

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***Abstract*— BigNeuron is a large-scale community-oriented project motivated by a number of efforts in neuroscience and brain research fields. The major goal of BigNeuron is to bench-test on a common open platform as many open-source, automated neuron reconstruction algorithms as possible with very large scale, publicly available single 3D neuron image datasets acquired by several light microscopy methods. The bench-test results will be produced using some of the fastest supercomputers in the world and then compared and validated using multiple criteria carefully defined by the computational neuroscience community. The major results of BigNeuron will include (1) a worldwide community-oriented and large single neuron morphology database, (2) a large set of open-source, community-based novel tools for neuroscience studies, (3) a standardized protocol and resource for any future scientists to study and reconstruct neuron morphology, and (4) a rich library of morphology feature definitions and algorithms to provide the basis of quality metrics and classification. I am going to review the recent progress of BigNeuron and highlight the special session of BigNeuron in the Bioimage Informatics 2015 conference.**

***Index Terms*— stitching, web based processing**

References

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