

NeuroData SIMPLEX Report: February 2017

The following report documents the progress made by the labs of PI Joshua T. Vogelstein and Co-PIs Randal Burns and Carey Priebe at Johns Hopkins University towards goals set by the DARPA SIMPLEX grant.

Contents

1	Data: What's in the Cloud	2
2	Statistical Theory and Methods	3
2.1	LOL	3
2.2	Multiscale Generalized Correlation (MGC)	4
2.3	RerF	5
2.4	Discriminability	6
2.5	Low-rank Assumption Discussion	7
2.6	Robust Law of Large Graphs	8
2.7	Nonparametric Network Dependence Test	9
2.8	Batch effect removal in dimension reduction of multiway array data	10
2.9	Reduced Dimension Clustering	11
3	Scalable Algorithm Implementations	12
3.1	FlashX	12
3.2	ndstore	13
3.3	ndviz	14
3.4	knor	15
4	Scientific Pipelines: Infrastructure & Dataset Specific Progress	16
4.1	SIC	16
4.2	ndstore	16
4.3	ndmg	16
4.4	ndviz	16
4.5	MRI	16
4.6	CLARITY	16
4.7	Ophys	16
5	Bibliography	17

1 Data: What's in the Cloud

2 Statistical Theory and Methods

2.1 LOL @jovo

LOL took a backseat this month while jovo had a baby :)

2.2 Multiscale Generalized Correlation (MGC)

Your content here. Please make sure that it fits on one page.



Figure 1: Please provide a detailed caption for your figure.

2.3 RerF

Your content here. Please make sure that it fits on one page.



Figure 2: Please provide a detailed caption for your figure.

2.4 Discriminability

Your content here. Please make sure that it fits on one page.



Figure 3: Please provide a detailed caption for your figure.

2.5 Low-rank Assumption Discussion

2.6 Robust Law of Large Graphs

Your content here. Please make sure that it fits on one page.



Figure 4: Please provide a detailed caption for your figure.

2.7 Nonparametric Network Dependence Test

Your content here. Please make sure that it fits on one page.



Figure 5: Please provide a detailed caption for your figure.

2.8 Batch effect removal in dimension reduction of multiway array data

Your content here. Please make sure that it fits on one page.



Figure 6: Please provide a detailed caption for your figure.

2.9 Reduced Dimension Clustering

Your content here. Please make sure that it fits on one page.



Figure 7: Please provide a detailed caption for your figure.

3 Scalable Algorithm Implementations

3.1 FlashX

Your content here. Please make sure that it fits on one page.



Figure 8: Please provide a detailed caption for your figure.

3.2 ndstore

Your content here. Please make sure that it fits on one page.



Figure 9: Please provide a detailed caption for your figure.

3.3 ndviz

Your content here. Please make sure that it fits on one page.



Figure 10: Please provide a detailed caption for your figure.

3.4 knor

Your content here. Please make sure that it fits on one page.



Figure 11: Please provide a detailed caption for your figure.

4 Scientific Pipelines: Infrastructure & Dataset Specific Progress

4.1 SIC

4.2 ndstore

4.3 ndmg

4.4 ndviz

4.5 MRI

4.6 CLARITY

4.7 Ophys

5 Bibliography

Manuscripts

[1] N. Peeps, “Paper with a cool title,” 2017.

Invited Talks

[1] N. Peeps, “Talk with a cool title,” SIAM, JSM, NIPS, ???, Jan 2017.

Conferences

[1] N. Peeps, “Poster with a cool title,” SIAM, JSM, NIPS, ???, Jan 2017.