

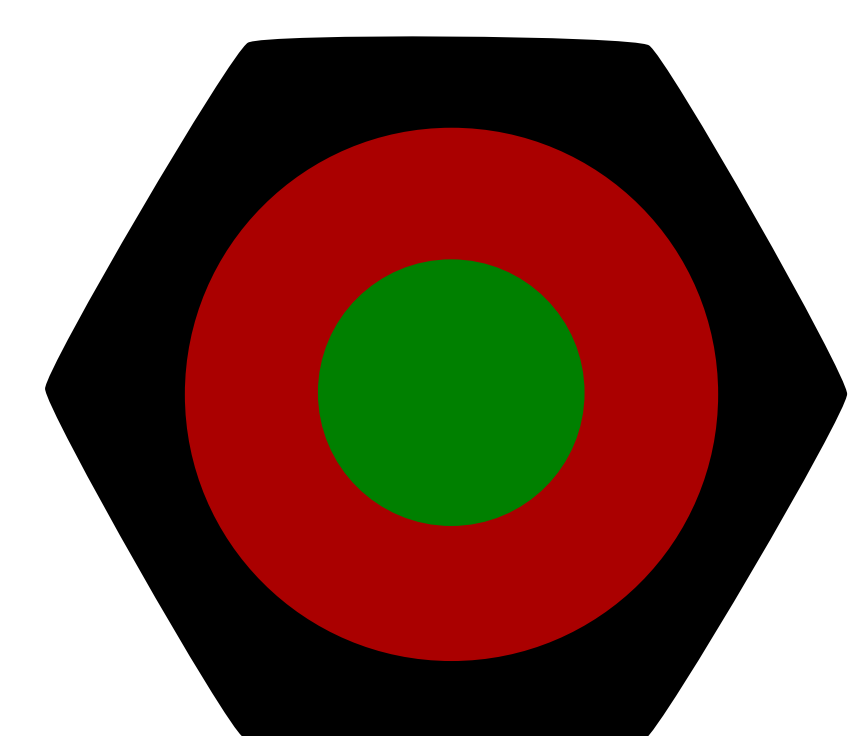
tSNE Better Faster Cheaper

Algorithms

Year	O(time)	Name
2003	n^2	SNE
2008	n^2	tSNE
2014	$n \log n$	BH-SNE*
2016	$n \log n$	HSNE
2017	?	A-tSNE
2018	n	tfjs-tsne
2018	$n \log n^{**}$	tsne-cuda

* Default for sklearn

** 50X – 700X



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Features

Auto-Perplexity: hyperparameter autoset

- Think: k-means Elbow

Interactive

- In-browser UI & algorithm run
- Brush UI for subsetting

Progressive Visual Analytics

- Steerable
- Control embedding while crunching

Less preprocessing needed nowadays

Free Jupyter compute

Site	TFLOPS	GPU	Owner
Colab	180	TPU v2	Google
Colab	65	T4	Google
Kaggle	21	P100	Google
MyBinder	?	none	Open

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