Bren	Idan Chambers Chica	go, IL 60615
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Creativ	ve data scientist. Former computational neuroscientist. Verbal & visual communicator.	
	EDUCATION	
PhD BA	University of Chicago, Committee on Computational Neuroscience Motif analysis and temporal patterns in a noisy neural communication network Oberlin College, Department of Computer Science	2016 2011
Univer	sity of Chicago Postdoctoral Fellow	2017
	Transferred machine learning strategies to develop better analysis & simulation tools.	2017
Univer	r sity of Chicago PhD Candidate	2011 - 2016
	Mapped emergent patterns of influence in a dynamic communication network. Supervised & mentored two undergraduates, now placed into research jobs. Identified candidate causal links in noisy population data using custom statistical nulls. Refined a signal-acquisition & data compression pipeline. Developed data quality tests. Created simulations of balanced spiking networks to complement real data.	
Oberlin	n College Honors Scholar	2010
	Developed attention-steered deep RBM for analyzing distorted words.	
Rockw	vell Collins Engineering Summer intern	2009
•	Supported virtual sensing project & documented code.	
	SELECTED PROJECTS	
Quanti	itatively dissected a computational biology journal using natural language processing Developed custom web-scraper to obtain the complete history of PLOS Computational Biology Pre-processed text and built an SQL database of clean text using SQLite Learned semantically rich representations of abstracts by training word2vec encodings Identified topic structure using dimensionality reduction (PCA, U-MAP) & clustering (HDBSCAN	2018)
Quanti	ifying racial inequity in a statewide alleged gang-member database Compared database composition to state population demographics based on census data African-American individuals were overrepresented four-fold compared to racial equity New entries to the database were even more skewed towards racial inequity	2018
Charac	cter-level text generation of political speech with RNNs via Keras Employed LSTM model with BPTT and presented advantages of Hessian-Free Optimization	2018
Investi	igating racialized sentiment in Twitter statuses Built databases of tweets using multiple methods: Streaming API, REST API, web-scraping Identified linguistic clusters within tweets about Congressman John Lewis	2017
Solving	g non-differentiable objective functions with stochastic optimization Parameter tuning of spiking neural network models (Firefly algorithm, Particle Swarm) Decoding substitution cyphers, finding short paths for TSP (Evolutionary algorithms)	2017 2010
	SKILLS	
Progra	amming languages (years) Python (4) JavaScript/ES6 (1) Scheme (1) Java (4) Matlab (6)	
Data a	nalysis Social network analysis, deep neural networks, hypothesis testing, computational modeling	
Comm	nunication	

- · Three first-author articles in peer-reviewed journals
- Over 40 panels of scientific visualizations published
- Public speaking experience presenting complex computational research to diverse audiences
- Selected symposium speaker at interdisciplinary conference for network science NetSci 2017
- Recognized among 50 Most-Downloaded Articles, PLOS Computational Biology 2017