

# Daniel J. Saunders

Research Assistant  
BINDS Lab  
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<https://djsaunde.github.io>  
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## Education

M.S. Computer Science, University of Massachusetts, Amherst Concentration: machine learning, computational neuroscience GPA: 3.7	2017–2019
B.S. Computer Science, University of Massachusetts, Amherst Concentration: theoretical computer science, artificial intelligence GPA: 3.5	2012–2017
B.S. Mathematics, University of Massachusetts, Amherst Concentration: mathematical computing GPA: 3.5	2012–2017

## Employment

Graduate Research Assistant Biologically Inspired Neural and Dynamical Systems Lab Supervisor(s): Professors Robert Kozma and Hava Siegelmann	Spring 2017–
Data Science Intern HealthcareSource Supervisor(s): Patrick McDonough	Summer 2018
Programmer Department of Resource Economics, University of Massachusetts, Amherst Supervisor(s): Professors Christian Rojas and Debi Mohapatra	Fall 2016–
Research Intern Air Force Research Lab Automatic Target Recognition Center Supervisor(s): Dr. Roman Ilin and Professor Robert Kozma	Summer 2017
Programmer Biologically Inspired Neural and Dynamical Systems Lab Supervisor(s): Dr. Hava Siegelmann	Summer 2016
Programmer Cognition and Action Lab, University of Massachusetts, Amherst Supervisor(s): Professor Rebecca Spencer	Summer 2015–Winter 2017

Software Development Intern  
Epsilon  
Supervisor(s): Patrick McDonough

Summer 2015

## Awards

Bay State Master's Program (10% of tuition & fees)

2017–2019

## Publications

### PREPRINTS

1. H. Hazan, D. J. Saunders, H. Khan, D. T. Sanghavi, H. T. Siegelmann, and R. Kozma. BindsNET: A machine learning-oriented spiking neural networks library in Python. *ArXiv e-prints*, June 2018.

### CONFERENCE ARTICLES

2. H. Hazan, D. J. Saunders, D. T. Sanghavi, H. T. Siegelmann, and R. Kozma. Unsupervised learning with self-organizing spiking neural networks. In *International Joint Conference on Neural Networks*, 2018.
3. D. J. Saunders, H. T. Siegelmann, R. Kozma, and M. Ruzinkó. Unsupervised learning with self-organizing spiking neural networks. In *International Joint Conference on Neural Networks*, 2018.

## Software

1. BindsNET: A spiking neural networks simulation library built with PyTorch. 2015–  
GitHub repo: <https://github.com/Hananel-Hazan/bindsnet>  
D. Saunders, H. Hazan, and H. Khan.

## Technical Skills

- Programming languages (ordered by decreasing proficiency): Python, Java, C/C++, MATLAB, SQL, JavaScript, Haskell
- Machine learning frameworks (ordered by decreasing proficiency): PyTorch, Scikit-Learn, Keras, Tensorflow, Theano, MatConvNet