

# Jasmine L. Collins

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## Education

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**University of Pittsburgh**, Pittsburgh, PA Aug 2012–May 2016  
B.S. in **Neuroscience** and **Computer Science**, minor in **Chemistry**  
*Summa cum laude*, GPA: 3.79/4.0

## Research Positions

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**Google**, Google Brain Resident June 2016–present  
Advisor: David Sussillo (Google)  
Investigating tradeoffs across various recurrent neural network architectures and improving deep learning techniques for inferring latent dynamics from neural spiking data

**Koes Group**, Undergraduate Researcher Aug 2015–May 2016  
Advisor: David Koes, Computational Biology (University of Pittsburgh)  
Used machine learning methods such as linear and logistic regression, as well as convolutional neural networks to predict drug binding for protein targets of interest

**Early Neural Reward Lab**, Undergraduate Researcher Aug 2014–Sept 2015  
Advisor: Judith Morgan, Psychiatry (University of Pittsburgh)  
Investigated the effects of maternal depression on child reward processing via behavioral questionnaires, saliva sampling of neuroendocrine function, and fMRI scans

## Work Experience

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**Pitt Department of Computational & Systems Biology**, Programmer Jan 2015–Oct 2015  
Improved 3Dmol.js, a JavaScript library for molecular visualization, by implementing several user-requested features such as symmetry support and animated models

**Schneider Lab**, Research Applications Developer May 2015–Aug 2015  
Developed an iOS app for improving learning and memory in individuals suffering from traumatic brain injury

**UPMC Western Psychiatric Institute & Clinic**, Student Nursing Assistant Aug 2012–Sept 2014  
Aided nurses and doctors in development of patient treatment plans, maintained safe and therapeutic environment on inpatient unit of primarily schizophrenic demographic

## Publications

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**Collins, J.**, Sohl-Dickstein, J., Sussillo, D. (2016) Capacity and trainability in recurrent neural networks. *International Conference on Learning Representations 2017 (in submission)*.

Busia, A., **Collins, J.**, Jaitly N. (2016) Protein secondary structure prediction using deep multi-scale convolutional neural networks and next-step conditioning. *International Conference on Research in Computational Molecular Biology 2017 (in submission)*.

Sunseri, J., Ragoza, M., **Collins, J.**, & Koes, D. R. (2016). A D3R prospective evaluation of machine learning for protein-ligand scoring. *Journal of Computer-Aided Molecular Design*, 1-11.

## Posters

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**Collins, J.**, Ragoza, M., Jensen, J., Koes, D. “*3Dmol.js: 3D structure visualization for the modern web*” 251st American Chemical Society National Meeting & Exposition, Spring 2016, San Diego, CA

Ragoza, M., **Collins, J.**, Bastola, N., Koes, D. “*Convolutional Neural Networks for Protein-Ligand Scoring*” 251st American Chemical Society National Meeting & Exposition, Spring 2016, San Diego, CA

**Collins, J.**, Osterritter, C., Morgan, J. “*Effect of Reward Seeking Behavior of Neural Activation in Response to Reward*” University of Pittsburgh Undergraduate Research Fair, Spring 2015, Pittsburgh, PA

**Collins, J.**, Jensen, J., Ragoza, M., Rego, N., Koes, D. “*3Dmol.js: Online Visualization of 3D Molecular Data*” 246th American Chemical Society National Meeting & Exposition, Spring 2015, Denver, CO

## Awards

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**NCWIT Collegiate Award** 2016  
Awarded to college women with outstanding technical accomplishments that demonstrate a high level of creativity and potential impact

**NetApp Systems Research Award** 2016  
Funding for students to complete research in the area of computer systems

**SGB Research Conference Travel Grant** 2016