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Education

University of California Berkeley

Berkeley, CA

Ph.D. CANDIDATE IN COMPUTER SCIENCE (ADVISED BY JITENDRA MALIK)

Aug 2017 - present

University of Pittsburgh

Pittsburgh, PA

B.S. IN COMPUTER SCIENCE AND NEUROSCIENCE, MINOR IN CHEMISTRY (GRADUATED SUMMA CUM LAUDE)

Aug 2012 - May 2016

Work Experience _____

Google Brain Mountain View, CA

SOFTWARE ENGINEERING INTERN

May 2018 - Sept 2018

· Proposed a loss-based alternative to batch normalization that is more robust to small batch size training

AI RESIDENT Jun 2016 - Aug 2017

- Investigated tradeoffs between different recurrent neural network architectures
- Improved deep learning techniques for inferring latent dynamics from neural spiking data

University of Pittsburgh - Computational Biology Department

Pittsburgh, PA

SOFTWARE ENGINEER

Jan 2015 - Oct 2015

· Added features to JavaScript library for molecular visualization, such as implementing symmetry support and animated models

Publications & Preprints ___

J. Collins, S. Goel, A. Luthra, L. Xu, K. Deng, X. Zhang, T. Yago, H. Arora, T. Dideriksen, M. Guillaumin, J. Malik. ABO: Dataset and benchmarks for real-world 3D object understanding. *arXiv:2110.06199*, 2021.

E. Kosoy, **J. Collins**, D. Chan, S. Huang, D. Pathak, P. Agarwal, J. Canny, A. Gopnik, J. Hamrick. Exploring exploration: comparing children with RL agents in unified environments. *International Conference on Learning Representations (ICLR) Workshop*, *Oral*, 2020.

- **J. Collins**, K. Xu, B. Olshausen, B. Cheung. Automatically inferring task context for continual learning. *Cognitive Computational Neuroscience (CCN)*, *Oral*, 2019.
- **J. Collins**, J. Balle, J. Shlens. Accelerating training of deep neural networks with a standardization Loss. *Women in Machine Learning (WiML) Workshop*, 2019.

C. Pandarinath, D. O'Shea, **J. Collins**, R. Jozefowicz, S. Stavisky, J. Kao, E. Trautmann, M. Kaufman, S. Ryu, L. Hochberg, J. Henderson, K. Shenoy, L. Abbott, D. Sussillo. Inferring single-trial neural population dynamics using sequential auto-encoders. *Nature Methods*, 2018.

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

Awards _____

| 2017 | NSF Graduate Research Fellowship Program , Three years of support for graduate study for |
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| | students who have demonstrated potential for significant achievements in science and engineering |
| 2017 | Berkeley EECS Excellence Award, Award for incoming graduate students with an outstanding |
| | undergraduate academic record |
| 2016 | NCWIT Collegiate Award , Award for college women with outstanding technical accomplishments |
| | that demonstrate a high level of creativity and potential impact |
| 2016 | NetApp Systems Research Award , Funding for undergraduate students to complete research in |
| | the area of computer systems |

SGB Conference Travel Grant, Travel grant for undergraduate students presenting at a conference



Introduction to Artificial Intelligence

GRADUATE STUDENT INSTRUCTOR

University of California, Berkeley Spring 2020