Reid McIlroy-Young

reid@reidmcy.com | reidmcy.com | github | scholar

Education

2018-Present. PhD in Computer Science, University of Toronto
Advisor: Ashton Anderson

2016-2018. Masters in Computational Social Science, University of Chicago
Thesis: "LSTM Identification of Computational Style: Masters in Computational Social Science"
Advisor: James Evans

2011-2015. BS Honors, Mathematical Physics, University of Waterloo
Honors Thesis: "Dilatometry of Exotic Materials"

Submitted Papers

Reid McIlroy-Young, Russell Wang, Siddhartha Sen, Jon Kleinberg, and Ashton Anderson. "Learning Personalized Models of Human Behavior in Chess". In: *NuerIPS* (2020). Submitted and awaiting review. URL: `https://arxiv.org/abs/2008.10086`

Publications

Reid McIlroy-Young, Siddhartha Sen, Jon Kleinberg, and Ashton Anderson. "Aligning Superhuman AI with Human Behavior: Chess as a Model System". In: *Proceedings of the 26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining* (2020). URL: `https://arxiv.org/abs/2006.01855`

Reid McIlroy-Young and Ashton Anderson. "From "Welcome New Gabbers" to the Pittsburgh Synagogue Shooting: The Evolution of Gab". In: *Proceedings of the International AAAI Conference on Web and Social Media*. Vol. 13. 01. 2019, pp. 651–654. URL: `https://arxiv.org/abs/1912.11278`

John McLevey, Alexander V Graham, Reid McIlroy-Young, Pierson Browne, and Kathryn S Plaisance. "Interdisciplinarity and insularity in the diffusion of knowledge: an analysis of disciplinary boundaries between philosophy of science and the sciences". In: *Scientometrics* 117.1 (2018), pp. 331–349

John McLevey and Reid McIlroy-Young. "Introducing metaknowledge: Software for computational research in information science, network analysis, and science of science". In: *Journal of Informetrics* 11.1 (2017), pp. 176–197

Conference Presentations

Reid McIlroy-Young, Siddhartha Sen, Jon Kleinberg, and Ashton Anderson. "Bridging the Gap between Superhuman AI and Human Behavior: Chess as a Model System". In: *International Conference on Computational Social Science*. Virtual, 2020

John McLevey and Reid McIlroy-Young. "Generating and Analyzing Scientific Networks with Metaknowledge". In: *1st North American Social Networks (NASN) Conference*. Washington DC, July 2017

John McLevey and Reid McIlroy-Young. "metaknowledge: open source sofware for networks research on science". In: *International Network for Social Network Analysis (INSNA)*. Beijing, June 2017

John McLevey, Katie Plaisance, and Reid McIlroy-Young. "How Knowledge Travels: An Analysis of the Diffusion of Philosophy of Science Over 60 Years". In: *Sunbelt XXXVI (Annual meetings of the International Network for Social Network Analysis)*. Newport Beach, CA, Apr. 2016

Posters

Reid McIlroy-Young, Siddhartha Sen, Jon Kleinberg, and Ashton Anderson. "Bridging the Gap Between Human and Artificial Intelligence in Chess". In: *Evolution of Deep Learning Symposium*. Toronto, Canada, Oct. 2019

Technical Skills

Languages:	Python, C, C++, R, JavaScript, LabView
Python Packages:	PyTorch, Tensorflow, NLTK, Gensim, scikit-learn, Jupyter, SciPy Stack
Other Experience:	Git/libgit2, Azure, AWS, Unix, SQL, LaTeX, High-performance Computing
Math Classes :	Multivariate/Vector/Tensor Calculus, ODEs, PDEs, Linear Algebra, Chaos Theory, Group Theory, Optimal Control, Quantum Mechanics, Probability, Statistics
ML Classes :	RL, Deep Learning, NLP, Probabilistic Graphical Models, Information Theory

Projects

I was the sole or primary developer on the following projects:

AlphaZero in *PyTorch*	Modified to predict and search with many features from human games *Features*: fast mmaped based parallel loading system, 100+ nets trained
Analyse All Repos on *GitHub*	Analysis looked at language, network and commit patterns/entropy *Features*: 60 million repos, compressed 80 TB, highly parallel
Complete Scrape of *Gab*	Looked at language and identifying users, presented at ICWSM 2019 *Features*: processed 748K users and 30.5M posts, custom scraper
Course Material, *Content Analysis*	Authored 9 *Jupyter* notebooks on NLP in Python, main course material for the class, redesigned for second year and added custom library

Software

Reid McIlroy-Young and John McLevey. "Metaknowledge: A Python3 library for bibliometric and sociology of knowledge research." Website and documentation: networkslab.org/metaknowledge.

Lab and Research Experience

2018-Present. Computational Social Science Lab, PI Dr. Ashton Anderson
2016-2018. Knowledge Lab, PI Dr. James Evans
2014-2016. Knowledge Networks Lab, PI Dr. John McLevey
2013-2015. Hill Physics Group, PI Dr. Robert Hill

Teaching Assistantships

2020, Winter, *Social and Information Networks*, University of Toronto
2019, Winter, *Probabilistic Learning and Reasoning*, University of Toronto
2018, Fall, *Computers and Society*, University of Toronto
2017, 2018, Spring, *Augmented Intelligence*, Booth School of Business
2017, 2018, Winter, *Computational Content Analysis*, University of Chicago

Affiliations

2016-2018 Senior Data Scientist, Knowledge Lab, University of Chicago
2014-2016 Member, Waterloo Institute for Complexity and Innovation, University of Waterloo

Research Interests

Machine Learning, Deep Learning, Reinforcement Learning, Social Networks, Complex Systems, Computational Social Science, Computational Creativity, Scientometrics