curriculum vitæ of

Dongyan Lin

Computational Neuroscience · Machine Learning · Neural Networks

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Education

Sep. 2019 – present **Ph.D.** in Computational Neuroscience — McGill University, Canada

I am a PhD candidate in computational neuroscience at the Integrated Program of Neuroscience at McGill University and Mila. My research lies at the intersection of neuroscience and artificial intelligence. Specifically, I am interested in designing artificial agents whose behaviours and neural representations resemble those observed in animals, as well as developing novel machine learning tools to analyze neural data.
cGPA: 4.00/4.00

Sep. 2015 – Jun. 2019 **Hon. B.Sc.** in Physiology (high distinction) — University of Toronto, Canada

Minored in Mathematics and Psychology.
cGPA: 3.87/4.00

Research Experience

Sep. 2019 – present Ph.D. Student — Mila; McGill University

Advisor: Dr. Blake Richards
Project: An artificial intelligence framework for the neural basis of time-dependent working memory

Sep. 2018 – Apr. 2019 Lab Manager / Research Assistant — Department of Psychology, University of Toronto

Advisor: Dr. Katherine Duncan
Project: Investigating the retrieval of semantic memory in human by measuring the familiarity to objects with the naming experiment

Jun. 2018 – Aug. 2018 Bioinformatics Intern — RIKEN, Japan

Advisor: Dr. Michiel de Hoon
Project: Elucidating the functional roles of anti-sense transcripts in human THP-1 leukemia cells with computational methods

May. 2017 – Aug. 2017 Research Student — Sickkids Hospital; University of Toronto

Advisor: Dr. Steven Prescott
Project: *In vitro* chloride regulation of mouse hippocampal gamma oscillations

Presentations

Preprints

1. **D. Lin**, B. A. Richards. *Time cell encoding in deep reinforcement learning agents depends on mnemonic demands.* bioRxiv (2021). doi: https://doi.org/10.1101/2021.07.15.452557

Presentations

1. **D. Lin**, B. A. Richards. *Representations of space, time, and memory in deep reinforcement learning agents,* UNIQUE Student Symposium, virtual. May 2021. Link to presentation
2. **D. Lin**, FANTOM Consortium, M. de Hoon. *Elucidating the functional roles of anti-sense transcripts in human THP-1 leukemia cells with computational methods,* Summer Undergraduate Research Symposium, Department of Cell & System Biology, University of Toronto. September 2018. **Received the Best Poster Award.** Link to poster
3. **D. Lin**, S. Ratté, S. A. Prescott. *The chloride regulation of mouse hippocampal gamma oscillation in vitro,* University Research Opportunity Program Awardee Seminar, University of Toronto. July 2017. Link to presentation

Honours

2021	Healthy Brains, Healthy Lives (HBHL) PhD Fellowship	$15,000
2020	IVADO MSc Excellence Scholarship	$40,000
2019	Integrated Program in Neuroscience Recruitment Award	$5,000
2018	Innis College Exceptional Achievement Award	$735
2019, 2018, 2017, 2016	University of Toronto Dean's List	
2017	University of Toronto Research Opportunity Program Award	$2,000
2017	Innis College Later Life Learning OSOTF Award	$1,336
2016	Innis College Later Life Learning OSOTF Award	$1,289
2016	University of Toronto Beatty Scholarship	$1,500
2015	University of Toronto Entrance Scholarship	$6,000

Teaching Experience

Sep. 2021 – Dec. 2021	Teaching Assistant: INF8953DE (Reinforcement Learning)	Polytechnique Montréal
May. 2021 – Jun. 2021	Teaching Assistant / Project Manager	AI4Good Lab, Montréal, Canada
Nov. 2019 – Mar. 2020	Volunteer Classroom Instructor	BrainReach, Montréal, Canada
Sep. 2018 – Apr. 2019	Teaching Assistant: MAT135 (Calculus I), MAT136 (Calculus II)	University of Toronto

Volunteer & Community Service

Sep. 2021 – present	Trainee Representative	HBHL Equity, Diversity, and Inclusion Committee
Feb. 2021 – present	Founding Member	Social Media Research Committee, Mila
Feb. 2021 – present	Mental Health First Aider	Mila
Oct. 2020 - Nov. 2020	Organizer	Montréal AI & Neuroscience (MAIN) Conference, Montréal, Canada
Feb. 2020 - May. 2020	Organizer	UNIQUE Student Symposium, Montréal, Canada
May 11, 2019	Demo Day Volunteer	Science Rendezvous, University of Toronto
May 2018 – Apr. 2019	Peer Mentor	First-year Learning Community, University of Toronto
May 2018 – Apr. 2019	Event Leader	Centre for International Experience, University of Toronto
May 2017 – Apr. 2018	Mentor	Centre for International Experience, University of Toronto

Graduate Coursework

Winter 2020	COMP767: Reinforcement Learning	A
Winter 2020	NEUR631: Principles of Neuroscience II	A
Fall 2019	NEUR630: Principles of Neuroscience I	A

Workshops & Summer Schools

Jul. 2021	CIFAR Deep Learning Reinforcement Learning Summer School
Feb. 2021	Computational and Systems Neuroscience (COSYNE) Workshop: Recurrent Neural Networks
Jul. 2020	Neuromatch Academy (Interactive Track): Computational Neuroscience
Jul. 2019 - Aug. 2019	L'École d'immersion française de Trois-Pistoles, Western University

Skills

Experimental neuroscience: extracellular recording, surgery, slice preparation
Programming: Python, UNIX, MATLAB, LaTeX, HTML, PyTorch
Natural Languages: Mandarin (native), English (fluent), French (basic)