

curriculum vitae of  
**Dongyan Lin**

COMPUTATIONAL NEUROSCIENCE · MACHINE LEARNING · NEURAL NETWORKS

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## EDUCATION

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- 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

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- 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

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### 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](#)

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HONOURS

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2021	<b>Healthy Brains, Healthy Lives</b> PhD Fellowship	\$15,000
2020	<b>IVADO</b> MSc Excellence Scholarship	\$40,000
2019	<b>Integrated Program in Neuroscience</b> Recruitment Award	\$5,000
2018	<b>Innis College</b> Exceptional Achievement Award	\$735
2019, 2018, 2017, 2016	<b>University of Toronto</b> 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

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TEACHING EXPERIENCE

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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

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VOLUNTEER & COMMUNITY SERVICE

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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

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GRADUATE COURSEWORK

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

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WORKSHOPS & SUMMER SCHOOLS

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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

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SKILLS

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