

Mehrdad Kashefi

Contact Info	Western Interdisciplinary Research Building, London, ON, Canada N6A 3K7 mkashefi@uwo.ca mkashefi.com
Education	Western University , London, ON, Canada 2020 - now <i>Neuroscience Ph.D. Candidate</i> Preliminary Thesis Title: “Neural Basis of Sequential Action” Advisors: Dr. Andrew Pruszynski, Dr. Jörn Diedrichsen Iran University of Science and Technology (IUST) , Tehran, Iran 2017 - 2020 <i>M.S. Electrical Engineering - Bioengineering</i> Lorestan University , Lorestan, Iran 2013 - 2017 <i>B.S. Electrical Engineering - Electronics</i>
Awards	Neural Control of Movement (NCM) travel award 2024 International Ontario Graduate Scholarship (OGS-International) 2023 Best Oral Presentation at Neuroscience Research Day, Western University 2023 Neuroscience Program Travel Award, Western University 2022 Graduated with First Rank GPA, IUST 2020 Distinguished Student of EE Department, IUST 2019
Publications	
Preprints	[2] Kashefi M. , Diedrichsen J. [†] , Pruszynski J.A. [†] “Motor sequence learning involves better prediction of the next action and optimization of movement trajectories”, bioRxiv 10.1101/2024.12.23.630092 († := Co-senior authors) [1] Michaels J., Kashefi M. , Zheng J., Codol O., Weiler J., Kersten R., Gribble P., Diedrichsen J., Pruszynski J.A. “Sensory expectations shape neural population dynamics in motor circuits”, bioRxiv 10.1101/2024.12.22.629295
Journal Articles	[7] Shahbazi M., Ariani G., Kashefi M. , Pruszynski J.A., Diedrichsen J., “Neural correlates of online action preparation”, <i>Journal of Neuroscience</i> .e1880232024 [6] Kashefi M. , Reschechtko S., Ariani G., Shahbazi M., Alice Tan, Diedrichsen J., Pruszynski J.A. “Future movement plans interact in sequential arm movements”, <i>eLife</i> .94485.1,2024 [5] Chung B., Zia M., Thomas K., Michaels J., Jacob A., Pack A., Williams M., Nagapudi K., Teng L., Arrambide E., Ouellette L., Oey N., Gibbs R., Anschutz P., Lu J., Wu Y., Kashefi M. , Oya T, Kersten R, Mosberger A., O’Connell S, Wang R., Marques H, Rita P. Mendes A., Lenschow C., Kondakath G., Kim J., Olson W.,Quinn K., Perkins P., Gatto G., Thanawalla A., Coltman S., Kim T., Smith T., Binder-Markey B., Zaback M., Thompson C., Giszter S., Person A., Goulding M., Azim E., Thakor N., O’Connor D., Trimmer B., Lima S., Carey M., Pandarinath C., Costa R., Pruszynski A., Bakir M., Sober S. “Myomatrix arrays for high-definition muscle recording”, <i>eLife</i> .88551.1, 2023 [4] Codol O., Michaels J. A, Kashefi M. , Pruszynski J.A., Gribble P. “MotorNet: a Python toolbox for controlling differentiable biomechanical effectors with artificial neural networks”, <i>eLife</i> .88591.1, 2023 [3] Codol O., Kashefi M. , Forgaard C.J., Galea J.M., Pruszynski J.A., Gribble P. “Sensorimotor feedback loops are selectively sensitive to reward”, <i>eLife</i> 12:e81325, 2023

[2] Ahmadi A. *, **Kashefi M.** *, Shahrokhi H, Nazari M.A., “Computer aided diagnosis system using deep convolutional neural networks for ADHD subtypes”, Biomedical Signal Processing and Control, 2021 (* := equal contribution)

[1] **Kashefi M.**, Daliri M.R., “A stack LSTM structure for decoding continuous force from local field potential signal of primary motor cortex (M1)”, BMC bioinformatics, 2021

Conference Abstract

Kashefi M., Diedrichsen J., Pruszynski J.A., “Is there more to sequence learning than better anticipation?”, Neural Control of Movement (NCM), Victoria, Canada, 2023

Kashefi M., Ariani G., Diedrichsen J., Pruszynski J.A., “Planning multiple future actions in sequential reaching”, Neural Control of Movement (NCM), Dublin, Ireland, 2022

Talks

Kashefi M., “Future movement plans interact in sequential arm movements”, Motor control Group, West Virginia University, December 2024

Kashefi M., Diedrichsen J., Pruszynski J.A., “A compositional solution for sequence learning”, Neural Control of Movement (NCM), Dubrovnik, Croatia, 2024

Kashefi M., Diedrichsen J., Pruszynski J.A., “Is motor learning merely anticipation?”, Neuroscience Research Day (NRD), London, Canada, 2023

Teaching Workshop

Introduction to Machine Learning, Brainhack Western 2021

TA

Physiology and Pharmacology Laboratory, Western University 2021
Computational Neuroscience, IUST 2019-2020
Electronic Circuits, IUST 2018

Outreach

Mentorship Committee, Society of Neuroscience Graduate Students, Western 2022
Mentoring first-year graduate students in the neuroscience program.

Thames Valley Science and Engineering Fair, London, ON, CA 2021-2023
Judge for Grade 4-12 Science Engineering Fair

Python Camp, IUST 2019
Introductory python course for middle school students

Executive Committee Member, ICBME , IUST 2019
26th International Iranian Conference on Biomedical Engineering (ICBME)

Referees

Dr. Andrew Pruszynski
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