# Yuan Gao, M.Sc, Ph.D. Candidate

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## Education

2021 – *now* **Ph.D. Medical Biophysics, University of Toronto** in Healthcare AI.

2018 – 2020 **M.Sc. Pharmacology, University of Toronto** in Pharmacogenetics.

2014 – 2018 **B.Sc., University of Western Ontario** in Interdisciplinary Medical Sciences.

## Scholarships & Awards

2023 – 2026 **CIHR Canada Graduate Scholarship - Doctoral** *($115,000 CAD over 3 years)*
National level scholarship. Ranked 9 out of 898 applicants across all of Canada.

2022 – 2024 **Transform Heart Failure PhD Trainee Award** *($36,000 CAD over 2 years)*
Awarded to top ranked PhD student in translational heart failure researcher.

2022 **Ontario Graduate Scholarship** *($15,000 CAD)*
Provincial (State) level award. Declined due to holding other awards.

2021 **Medical Biophysics Fellowship** *($13,788 CAD)*
Scholarship provided to top incoming students to the Medical Physics program.

2019 **Master's Award: Canada Graduate Scholarships** *($17,500 CAD)*
National level scholarship. Ranked 24 out of 498 applicants across all of Canada.

2018 **Pharmacology Fellowship** *($5,000 CAD)*
Scholarship provided to top incoming students to the Pharmacology program.

2014 – 2018 **Dean's Honours List**
Award provided to individuals who maintained an average of 80% on any courses taken.

## Employment History

2019 – 2020 **Data Analyst,** University of Toronto Innovation Hub.

2018 – 2020 **Teaching Assistant,** Pharmacology and Toxicology, University of Toronto.

2017 – 2018 **Research Assistant,** Robarts Research Institute, London Ontario.

## Research Publications

### Journal Articles

1. **Y. Gao**, Y. Moayedi, F. Foroutan, B. Kim, E. De Luca, M. Brum, D. H. Brahmbhatt, J. Duhamel, A. Simard, C. McIntosh, and H. J. Ross, "Ted rogers understanding of exacerbations of heart failure (true-hf): A prospective clinical observational study of remote monitoring with wearables," *(Preparation)*, 2024.

2. B. Kim, S. Petrie, F. Foroutan, E. De Luca, M. Brum, D. H. Brahmbhatt, J. Duhamel, C. McIntosh, **Y. Gao**, Y. Moayedi, A. Simard, and H. J. Ross, "Evaluation of the heart failure patient experiences with the apple watch in the ted rogers understanding of exacerbations of heart failure (true-hf) study: A mixed-methods study," *(Preparation)*, 2024.

3. T. B. Marvasti, **Y. Gao**, K. R. Murray, S. Hershman, C. McIntosh, and Y. Moayedi, "Unlocking tomorrow's health care: Expanding the clinical scope of wearables by applying artificial intelligence," *Canadian Journal of Cardiology*, 2024. DOI: https://doi.org/10.1016/j.cjca.2024.07.009.

4. Y. Moayedi, F. Foroutan, **Y. Gao**, B. Kim, E. De Luca, M. Brum, D. Brahmbhatt, J. Duhamel, A. Simard, C. McIntosh, and H. Ross, "Developments in digital wearable in heart failure and the rationale for the design of true-hf (ted rogers understanding of exacerbations in heart failure) apple cpet study," *(Preparation)*, 2024.

5. **Y. Gao**, S. Miksys, R. M. Palmour, and R. F. Tyndale, "The influence of tobacco smoke/nicotine on cyp2a expression in human and african green monkey lungs," *Molecular Pharmacology*, vol. 98, no. 6, pp. 658–668, 2020, ISSN: 0026-895X. DOI: 10.1124/molpharm.120.000100.

6. M. Sancho, **Y. Gao**, B. O. Hald, H. Yin, M. Boulton, D. A. Steven, K. W. MacDougall, A. G. Parrent, J. G. Pickering, and D. G. Welsh, "An assessment of kir channel function in human cerebral arteries," *American Journal of Physiology-Heart and Circulatory Physiology*, vol. 316, no. 4, H794–H800, 2019. DOI: https://doi.org/10.1152/ajpheart.00022.2019.

### Conference Proceedings

1. M. Lee, **Y. Gao**, D. Franklin, and C. McIntosh, "Development of deep learning models for motion artifact mitigation in wearable ppg devices," in *Proceedings of the Society of Photo-Optical Instrumentation Engineers (SPIE) Photonics West*, (Accepted for Paper) 2024.

2. **Y. Gao**, S. Kim, D. E. Austin, and C. McIntosh, "Medbind: Unifying language and multimodal medical data embeddings," in *Proceedings of the 27th International Conference on Medical Image Computing and Computer Assisted Intervention*, 2024. DOI: https://doi.org/10.48550/arXiv.2403.12894.

## Leadership and Extracurricular

2023 – 2024 **Women in AI - Hackathon Mentor** *University of Toronto.*
Invited mentor for the annual Women in AI Hackathons Canada (2023 and 2024). I assisted teams in implementing AI methods (including machine learning algorithms, data analysis, and model optimization) and on feasibility of their projects. 2023: One of my teams secured 4th place among over 50 participating teams. 2024: Similarly one of my teams secured a 1st place.

2021 – *now* **Medical Biophysics Graduate Mentor** *University of Toronto.*
The Medical Biophysics Graduate Student Association organizes this program for first year graduate students. I use and will continue to use my experiences from my graduate career to support the development and integration of these students into the Medical Biophysics Department.

**Transform Heart Failure Member** *University Health Network.*
I actively participated in events that helped improve my understanding of collaborative team solutions and how to bring translational research to clinical practice. Once per month, I participate and present research in a small group (N=10) to engage engineer faculty and students on current clinical problems.

2015 – 2020 **Neural Brain Injury Unit Volunteer Trainer** *University Health Network.*
I was the hospital's elected volunteer leader for the Neural Brain Injury Unit. My role involved training new volunteers on providing positive social support to patients (like interacting with patients with disabilities). I was available to all trainees and was their liaison to discuss problematic patients with the recreational therapists.

2019 – 2020 **Vice President of Academic, Pharamcology Graduate Student Association** *University of Toronto.*
Twice a month, I planned and executed workshops to further professional development for students in the department (like equity, diversity, and inclusion workshops). I also organized the departmental research conference, Visions of Pharmacology 2020, to provide students with an opportunity to showcase and share their research.

## Skills

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| Databases | MySQL, PostgreSQL, Cassandra, MongoDB |
| Machine Learning | Pytorch, Tensorflow, Sklearn |
| Programming Languages | Python, R, Java, C++, C, SQL, XML, LaTeX |

## References

Available on Request