

Yiping Wang
Curriculum vitae

Master of Mathematics student
Cheriton School of Computer Science
University of Waterloo
Waterloo, Ontario, Canada

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EDUCATION

University of Waterloo

Master of Mathematics in Computer Science

Waterloo, Ontario, Canada

Cumulative GPA: 91.00%

Sept. 2021 – Expected Aug. 2023

Thesis Topic: Robust high-order optimization methods for unsupervised and weakly-supervised segmentation of biomedical images.

Supervisor: Dr. Yuri Boykov

University of Victoria

Honours Bachelor of Science in Computer Science

Victoria, British Columbia, Canada

Cumulative GPA: 91.68%

Sept. 2017 – Apr. 2021

Honours Project: **Learn by Review: Environment Generalization in Multi-agent Reinforcement Learning**

Supervisor: Dr. Brandon Haworth

CONFERENCE

– 2021

- A. Pesaranghader, Y. Wang, M. Havaei, **CT-SGAN: Computed Tomography Synthesis GAN**, 24th International Conference on Medical Image Computing and Computer Assisted Intervention Workshop on Deep Generative Models, October 1, 2021.
- Y. Wang, M. B. Haworth, **MASAI: Multi-agent Summative Assessment Improvement for Unsupervised Environment Design**, 38th International Conference on Machine Learning Workshop on Unsupervised Reinforcement Learning, July 24, 2021.

– 2020

- Y. Wang*, D. Farnell*, H. Farahani, M. Nursey, B. Tessier-Cloutier, S. J.M. Jones, D. G. Huntsman, C. Blake Gilks, A. Bashashati, **Classification of Epithelial Ovarian Carcinoma Whole-Slide Pathology Images Using Deep Transfer Learning**, 3rd International Conference on Medical Imaging with Deep Learning, Montréal, QC, Canada, 6 – 8 July, 2020. Acceptance Rate: 39.6% (42/106).

JOURNAL

– 2021

- M. Havaei*, X. Mao*, Y. Wang, Q. Lao, **Conditional Generation of Medical Images via Disentangled Adversarial Inference**, Medical Image Analysis.

– 2020

- A. Levine*, J. Peng*, D. Farnell, M. Nursey, Y. Wang, J. Naso, C. Ren, H. Farahani, B. Tessier-Cloutier, C. Chen, D. Chiu, A. Talhouk, B. Sheffield, M. Riazy, P. Ip, C. Parra-Heran, A. Mills, N. Singh, T. Salisbury, J. Lee, T. Salcudean, S. S.M. Jones, D. G. Hunts-

man, C. B. Gilks, S. Yip, A. Bashashati, **Synthesis of diagnostic quality cancer pathology images**, The Journal of Pathology

AWARDS AND SCHOLARSHIPS

– 2021

- **W.E. Cowie Innovation Award**, Estate of Charlotte Alexandra Nelson Cowie.
- **Vector Scholarship in Artificial Intelligence 2021-22**, Vector Institute.
- **International Master's Award of Excellence**, University of Waterloo.
- **Math Domestic Graduate Student Award**, University of Waterloo.
- **University of Waterloo Graduate Scholarship**, University of Waterloo.

– 2020

- **Jamie Cassels Undergraduate Research Awards 2020-21**, University of Victoria.
- **Computer Science Co-op Report Prize**, University of Victoria.
- **Co-operative Education Travel Awards Spring 2020**, University of Victoria.

– 2019

- **Co-operative Education Travel Awards Fall 2019**, University of Victoria.

RESEARCH EXPERIENCE

Research Intern

Google

May 2022 – Aug. 2022

Kitchener, Ontario, Canada

- Research in Vision Transformer for image classification and object detection.

Research Assistant

University of Waterloo

Sept. 2021 – Present

Waterloo, Ontario, Canada

- Research in robust high-order optimization methods for unsupervised and weakly-supervised semantic segmentation.

Research Assistant

University of Victoria

Sept. 2020 – Apr. 2021

Victoria, British Columbia, Canada

- Researched the value of training environments and generalization in Reinforcement Learning.

Research Intern

Imagia

May 2020 – Dec. 2020

Montréal, Québec, Canada

- Researched in generative models for lung 3D CT-scans.

Research Intern

University of British Columbia

Sept. 2019 – Apr. 2020

Vancouver, British Columbia, Canada

- Researched in patch-level and WSI-level classification for epithelial ovarian carcinoma whole-slide pathology images.

Research Intern

University of Victoria

May 2019 – Aug. 2019

Victoria, British Columbia, Canada

- Researched in patch-level tumour segmentation for the liver hepatocellular carcinoma whole-slide pathology images.

ACADEMIC SERVICES

- Peer Review
- Computer Animation & Virtual Worlds ($\times 1$)
- Talks
- An Introduction to Generative Adversarial Network in Medical Imaging, McMedHacks Workshop at McGill University, 18 July, 2021.

SOFTWARE DEVELOPMENT EXPERIENCE

Software Developer Intern <i>Global Reach Group</i>	May 2021 – Aug. 2021 Victoria, British Columbia, Canada
• Data engineering with ETL and created CI/CD pipelines for Gradle and .NET Core projects.	
Software Developer Intern <i>Global Reach Canada</i>	Sept. 2018 – Dec. 2018 Victoria, British Columbia, Canada
• Contributed to a currency exchange trading platform using Angular and C# .NET Core.	
Software Developer Intern <i>Kinsol</i>	May 2018 – Aug. 2018 Victoria, British Columbia, Canada
• Developed chatbot applications using Python Flask, JavaScript, Bootstrap and Rasa.	

TECHNICAL REPORTS

- 2021
 - Y. Wang, **Generalization Meets Optimization**, ECE573 Advanced Engineering Design by Optimization Capstone Project (93% A+), University of Victoria, Spring 2021.
- 2020
 - Y. Wang, **Deep Reinforcement Learning and Visual Computing for Crowd Navigation**, CSC473 Fundamentals of Computer Animation Capstone Project (98% A+), University of Victoria, Fall 2020.
- 2019
 - Y. Wang, C. Ten Have, M. Kennedy, **End-to-End Facial Expression Modifier**, CSC486B Deep Learning for Computer Vision Capstone Project (94% A+), University of Victoria, Spring 2019.
 - B. Pattie, Y. Wang, **Segmentation of Overlapping Cervical Cells by Joint Level Set Method**, ECE435 Medical Image Processing Capstone Project (94% A+), University of Victoria, Spring 2019.

SKILLS

- **Languages:** Python, Java, C, C++, C#, SQL, Scala
- **Libraries:** PyTorch, TensorFlow, Angular, Unity, .NET, OpenCV, OpenGL
- **Tools:** Git, Docker, AWS, Linux, L^AT_EX

EXTRACURRICULAR ACTIVITIES

<i>Computer Science Graduate Student Association</i> Event Coordinator	15 th Jan. 2022 – Present University of Waterloo, Waterloo, Ontario, Canada
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Undergraduate Research Opportunities Conference 27th – 30th Sept. 2018
Attendee University of Waterloo, Waterloo, Ontario, Canada