

**Yiping Wang**  
*Curriculum vitae*

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

🇨🇦 Permanent Resident  
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**EDUCATION**

**University of Waterloo**

*Master of Mathematics in Computer Science*  
Cumulative GPA: 91.00%

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

Supervisor: Dr. Yuri Boykov

Waterloo, Ontario, Canada  
Sept. 2021 – Expected Aug. 2023

**University of Victoria**

*Honours Bachelor of Science in Computer Science*  
Cumulative GPA: 91.68%

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

Supervisor: Dr. Brandon Haworth

Victoria, British Columbia, Canada  
Sept. 2017 – Apr. 2021

**CONFERENCE**

– 2021

- A. Pesaranghader, Y. Wang, M. Havaei, **CT-SGAN: Computed Tomography Synthesis GAN**, 24<sup>th</sup> 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**, 38<sup>th</sup> 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**, 3<sup>rd</sup> 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. Riazzy, 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

*Global Reach Group*

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

*Global Reach Canada*

Sept. 2018 – Dec. 2018

Victoria, British Columbia, Canada

- Contributed to a currency exchange trading platform using Angular and C# .NET Core.

### Software Developer Intern

*Kinsol*

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,  $\LaTeX$

## EXTRACURRICULAR ACTIVITIES

*Computer Science Graduate Student Association*

**Event Coordinator**

15<sup>th</sup> Jan. 2022 – Present

University of Waterloo, Waterloo, Ontario, Canada

*Waterloo Mathematics Undergraduate Research Conference*

27<sup>th</sup> – 30<sup>th</sup> Sept. 2019

**Attendee**

University of Waterloo, Waterloo, Ontario, Canada

*Undergraduate Research Opportunities Conference*

27<sup>th</sup> – 30<sup>th</sup> Sept. 2018

**Attendee**

University of Waterloo, Waterloo, Ontario, Canada