a) NAME

Wong, Alexander

Professor, tenured
Member of the Graduate faculty

b) DEGREES

Ph.D., University of Waterloo, Systems Design Engineering, 2010
M.A.Sc., University of Waterloo, Electrical and Computer Engineering, 2007
B.A.Sc., University of Waterloo, Computer Engineering, 2005

c) EMPLOYMENT HISTORY

2021-present: Adaptive Oncology Affiliate/Academic Advisor, Ontario Institute for Cancer Research
2021-present: Professor, Systems Design Engineering, University of Waterloo
2020-present: Cross-appointed to School of Optometry and Vision Science, University of Waterloo
2017-present: University Ambassador and Certified Instructor, Nvidia Deep Learning Institute, Waterloo, ON
2016-2021: Associate Professor, Systems Design Engineering, University of Waterloo
2016-present: Cross-appointed to David R. Cheriton School of Computer Science, University of Waterloo
2015-present: Research Scientist, Schlegel Research Institute for Aging, Waterloo, ON
2015-present: Cross-appointed to Dept. of Mechanical and Mechatronics Engineering, University of Waterloo
2013-present: Canada Research Chair in Artificial Intelligence and Medical Imaging (Tier II), University of Waterloo
2011-2016: Assistant Professor, Systems Design Engineering, University of Waterloo
2010-2011: NSERC Postdoctoral Fellow, Dept. of Medical Biophysics, Sunnybrook Health Sciences Centre, Toronto, ON

d) HONOURS

Fellow, Institute of Physics, 2023
Fellow, International Society of Design and Development in Education, 2023
Fellow, Institute of Engineering and Technology, 2018
Member, College of New Scholars, Artists and Scientists, Royal Society of Canada, 2018
Distinguished Performance Award, University of Waterloo, 2016
Sandford Fleming Teaching Excellence Award, Sandford Fleming Foundation, 2015
Outstanding Performance Award, University of Waterloo, 2012-2014
Norman Edmund Inspiration Award, Edmund Optics, USA, 2014

e) SCHOLARLY AND PROFESSIONAL ACTIVITIES

Editorial

Section Editor, BMC Medical Imaging, Springer Nature. (2015-2020)
Section Editor, Encyclopedia of Biomedical Engineering, Elsevier. (2016-Present)
Section Editor, Sensors Journal. (2021-Present)
Section Editor, PLOS Digital Health. (2021-Present)
Area Editor, IEEE Canadian Journal of Electrical and Computer Engineering. (2020-Present)
Co-Editor-in-Chief, Journal of Computational Vision and Imaging Systems (2015-Present)
Associate Editor, Frontiers in Artificial Intelligence. (2022-Present)
Associate Editor, Sensors Journal. (2019-2021)
Associate Editor, Electronic Letters. (2019-Present)
Associate Editor, IEEE Canadian Journal of Electrical and Computer Engineering. (2013-2020)
Guest co-editor, Sensors Journal, Special Issue on Vision- and Image-Based Biomedical Diagnostics. (2022-Present)
Guest co-editor, BMC Medical Imaging, Springer Nature, Special Collection on Artificial Intelligence in Medical Imaging. (2020-Present)
Guest co-editor, Sensors Journal, Special Issue on Embedded Artificial Intelligence (AI) for Smart Sensing and IoT Applications. (2020-Present)
Guest co-editor, Sensors Journal, Special Issue on Artificial Intelligence in Medical Sensors. (2019-Present)
Guest co-editor, Sensors Journal, Special Issue on Biomedical Imaging and Sensing. (2018-Present)

Conference organization

Co-chair, AAAI Annual Conference on Innovative Applications of Artificial Intelligence (IAAI) (2022-2023, 2023-2024)
Co-organizer, AI against COVID-19: Screening X-Ray Images for COVID-19 Infections Competition with IEEE, 2021
Conference Track Chair (Machine and Computer Vision), Canadian Conference of Electrical and Computer Engineering (CCECE 2021)
Conference co-chair, Annual Conference on Vision and Imaging Systems (CVIS 2015, 2016, 2017, 2018)
Co-chair, Special Session on Medical Imaging and Analysis Using Deep Learning and Machine Intelligence at International Conference on Image Analysis and Recognition (ICIAR) (2019)
Co-chair, Special Session on Deep Learning on the Edge at International Conference on Image Analysis and Recognition (ICIAR) (2019)
Co-chair, Workshop on Machine Learning for Medical Care at International Conference on Image Analysis and Recognition (ICIAR) (2017)
Co-chair, BIRC Workshop on Deep Learning in Medicine (2017)

f) GRADUATE SUPERVISIONS

n/a

g) GRADUATE COURSES (past seven years)

n/a

h) RESEARCH FUNDING (past seven years as principal investigator)

n/a

i) PUBLICATIONS

1) **Life-time summary**:
Books and monographs: 1
Edited books and monographs: 0
Chapters in books and monographs: 6
Refereed journal articles: 270
Refereed conference proceedings: 399
Presentations at conferences: n/a
Technical reports: n/a
Invited/keynote addresses: 102
Others (non-refereed contributions): 25

2) Details for past seven years

Chapters in books and monographs

1. F. Khalvati, Y. Zhang, A. Wong, and M. Haider, “Radiomics”, Encyclopedia of Biomedical Engineering, Elsevier, 2018.
2. B2 R. Amelard and A. Wong, “Hemodynamic Imaging”, Encyclopedia of Biomedical Engineering, Elsevier, 2018. B3 F. Kazemzadeh∗ and A. Wong, “Holographic Microscopy”, Encyclopedia of Biomedical Engineering, Elsevier, 2018.
3. A. Wong and T. Nahm, “Intelligent Blockchain: The Intersection between Blockchain and AI”, Proof of Stake: Blockchain Matters for Small and Medium Size Businesses, Miller Thomson, 2018.

Papers in refereed Journals

1. B. Vanberlo, B. Li, J. Hoey, and A. Wong, “Self-Supervised Pretraining Improves Performance and Inference Efficiency in Multiple Lung Ultrasound Interpretation Tasks”, IEEE Access, 2023.
2. E. Bidaki, P. Murphy, and A. Wong, “A novel system for ocular surface temperature measurement and tracking”, IEEE Access, 2023.
3. B. Li∗, S. Palayew, F. Li, S. Abbasi, S. Nair, and A. Wong, “PCBDet: An Efficient Deep Neural Network Object Detection Architecture for Automatic PCB Component Detection on the Edge”, IET Electronics Letters, 2023.

4. M. Gilles, Y. Chen, E. Zeng, Y. Wu, K. Furmans, R. Rayyes, and A. Wong, “MetaGraspNetV2: All-In-One Dataset Enabling Fast and Reliable Robotic Bin Picking via Object Relationship Reasoning and Dexterous Grasping”, IEEE Transactions on Automation Science and Engineering, 2023.
5. H. Gunraj, P. Guerrier, S. Fernandez and A. Wong, “SolderNet: Towards trustworthy visual inspection of solder joints in electronics manufacturing using explainable artificial intelligence”, AAAI Magazine, 2023. (extension on IAAI conference paper)
6. F. Zhu, W. Parker, and A. Wong, “Leveraging deep learning for automatic recognition of microplastics (MPs) via focal plane array (FPA) micro-FT-IR imaging”, Environmental Pollution, 2023.
7. S. Khan, A. Wong, and B. Tripp, “Modelling the role of contour integration in visual inference”, Neural Computation, 2023.
8. K. Ma, S. He, A. Ebadi, A. Florea, S. Tremblay, A. Wong, and P. Xi, “Towards Building a Trustworthy Deep Learning Framework for Medical Image Analysis”, Sensors Journal, 2023.
9. M. Jiang, X. Chen, L. Xu, Mohsen Ghanbari, D. Clausi, and A. Wong, “IceGCN: An Interactive Sea Ice Classification Pipeline for SAR Imagery Based on Graph Convolutional Network”, IEEE Transactions on Geoscience and Remote Sensing, 2023.
10. N. Teller, J. Chad, A. Wong, H. Gunraj, X. Ji, B. MacIntosh, A. Gilboa, E. Roudaia, A. Sekuler, B. Lam, C. Heyn, S. Black, S. Graham, and J. Chen, “Sensitivity of diffusion-tensor and correlated diffusion imaging to white-matter microstructural abnormalities: application in COVID-19”, Human Brain Mapping, 2023.
11. M. Gomrokchi, S. Amin, H. Aboutalebi, A. Wong, and D. Precup, “Membership Inference Attacks Against Temporally Correlated Data in Deep Reinforcement Learning”, IEEE Access, 2023.
12. J. Song, A. Ebadi, A. Florea, P. Xi, S. Tremblay, and A. Wong, “COVID-Net USPro: An Open-Source Explainable Few-Shot Deep Prototypical Network to Monitor and Detect COVID-19 Infection from Point-of-Care Ultrasound Images”, Sensors, 2023.
13. K. Pfisterer, R. Amelard, H. Keller, and A. Wong, “Characterizing Canadian long-term care home consumed foods and their inflammatory potential: a secondary analysis”, BMC Public Health, 2023.
14. H. Abedi, J. Boger, P. Morita, A. Wong, and G. Shaker, “Hallway Gait Monitoring System Using an In-Package Integrated Dielectric Lens Paired with a mm-Wave Radar”, Sensors Journal, 2023.
15. H. Abedi, A. Ansariyan, P. Morita, A. Wong, J. Boger, and G. Shaker, “AI-Powered Non-Contact In-Home Gait Monitoring and Activity Recognition System Based on mm-Wave FMCW Radar and Cloud Computing”, IEEE Internet of Things Journal, 2023.
16. Y. Yang, Z. Butt, S. Leatherdale, P. Morita, A. Wong, L. Rosella, H.Chen, “Exploring the dynamic transitions of polysubstance use patterns among Canadian youth using Latent Markov Models on COMPASS data”, The Lancet Regional Health - Americas, 2022.
17. A. Wong, J. Lee∗, H. Rahmat-Khan, A. Sabri, A. Alaref, and H. Liu∗, “TB-Net: A Tailored, Self-Attention Deep Convolutional Neural Network Design for Detection of Tuberculosis Cases From Chest X-Ray Images”, Frontiers in Artificial Intelligence, 2022.

18. M. Pavlova, N. Terhljan, A. Chung, A. Zhao∗, A. Sabri, A. Alaref, and A. Wong, “COVID-Net CXR-2: An Enhanced Deep Convolutional Neural Network Design for Detection of COVID-19 Cases from Chest X-ray Images”, Frontiers in Medicine, 2022.
19. H. Abedi, A. Ansariyan, P. Morita, J. Boger, A. Wong, and G. Shaker, “Hallway Gait Monitoring Using Novel Radar Signal Processing and Unsupervised Learning”, IEEE Sensors Journal, 2022.
20. A. Ebadi, P. Xi, A. MacLean, S. Tremblay, A. Florea, S. Kohli, and A. Wong, “COVIDx-US: An open-access benchmark dataset of ultrasound imaging data for AI-driven COVID-19 analytics,” Frontiers in Bioscience-Landmark, 2022.
21. Y. Fang, L. Xu, A. Wong, and D. Clausi, “A Bayesian Deep Image Prior Downscaling Approach for High-resolution Soil Moisture Estimation,” IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2022.
22. Y. Fang, L. Xu, A. Wong, and D. Clausi, “Multi-temporal Landsat-8 images for the retrieval and mapping of the copper concentration in soil using empirical models,” Remote Sensing, 2022.
23. M. Sarvestani, Z. Aimifar, and A. Wong, “Variable Centrality: A Scenario Based Centrality Calculation Method”, Journal of Computational Science, 2022.
24. A. Wong, H. Gunraj, V. Sivan, and M. Haider, “Synthetic correlated diffusion imaging hyperintensity delineates clinically significant prostate cancer”, Nature Scientific Reports, 2022.
25. Y. Fang, L. Xu, A. Wong, and D. Clausi, “BCUN: Bayesian Fully Convolutional Neural Network for Hyperspectral Spectral Unmixing”, IEEE Transactions on Geoscience and Remote Sensing, 2022.
26. Y. Wu, L. Xu, Y. Chen, A. Wong, and D. Clausi, “TAL: Topography-Aware Multi-Resolution Fusion Learning for Enhanced Building Footprint Extraction”, IEEE Geoscience and Remote Sensing Letters, 2022.
27. H. Aghamohammadi, S. Ali Hosseini, S. Srikant, A. Wong, and M. Moudineh, “Computational and Experimental Model to Study Immunobead-Based Assays in Microfluidic Mixing Platforms”, Analytical Chemistry (ACS), 2022.
28. H. Gunraj, A. Sabri, A. Alaref, and A. Wong, “COVID-Net CT-2: Enhanced Deep Neural Networks for Detection of COVID-19 from Chest CT Images Through Bigger, More Diverse Learning”, Frontiers in Medicine, 2022.
29. K. Pfisterer, R. Amelard, A. Chung, B. Syrnyk, A. MacLean, H. Keller, and A. Wong, “Automated food intake tracking requires depth-refined semantic segmentation to rectify visual-volume discordance in long-term care homes”, Nature Scientific Reports, 2022.
30. H. Aboutalebi, M. Pavlova, M. Shafiee, A. Sabri, A. Alaref, and A. Wong, “MEDUSA: Multi-scale Encoder-Decoder Self-Attention Deep Neural Network Architecture for Medical Image Analysis”, Frontiers in Medicine, 2022.
31. B. Laschowski, W. McNally, A. Wong, and J. McPhee, “Environment Classification for Robotic Leg Prostheses and Exoskeletons using Deep Convolutional Neural Networks”, Frontiers in Neurorobotics, 2022.
32. H. Aboutalebi, M. Pavlova, M. Shafiee, A. Sabri, A. Alaref, and A. Wong, “COVID-Net CXR-S: Deep Convolutional Neural Network for Severity Assessment of COVID-19 Cases from Chest X-ray Images”, Diagnostics, 2021.

33. X. Liu, X. Yang, D. Wang, A. Wong, L. Ma, L. Li, “VidAF: A Motion-Robust Model for Screening Atrial Fibrillation from Facial Videos”, IEEE Journal of Biomedical and Health Informatics, 2021.
34. A. Wong, J. Lu, A. Dorfman, P. McInnis, M. Famouri, D. Manary, J. Lee, and M. Lynch, “Fibrosis-Net: A Tailored Deep Convolutional Neural Network Design for Prediction of Pulmonary Fibrosis Progression from Chest CT Images”, Frontiers in Artificial Intelligence, 2021.
35. W. McNally, K. Vats, A. Wong, and J. McPhee, “EvoPose2D: Pushing the Boundaries of 2D Human Pose Estimation using Neuroevolution”, IEEE Access, 2021.
36. V. Sivan, M. Hardisty, A. Wong, S. McLachlin, “Characterization of a spinal cord diffusion tensor imaging pipeline with pathological spine data”, Journal of Computational Vision and Imaging Systems, 2021.
37. J. Deglint, J. Park, E. Freeman, K. Erratt, M. Allaf, A. Wong, “Feasibility of Instance Segmentation of Phytoplankton using Brightfield Microscopy and Deep Learning”, Journal of Computational Vision and Imaging Systems, 2021.
38. A. Cudlip, J. Callaghan, C. Dulhanty, A. Wong, and C. Dickerson, “Quantifying Supraspinatus Tendon Responses to Exposures Emulative of Human Physiological Levels in an Animal Model”, Journal of Biomechanics, 2021.
39. A. Wong, Z. Lin, L. Wang, A. Chung, B. Shen, A. Abbasi, M. Hoshmand-Kochi, and T. Duong, “Towards computer-aided severity assessment via deep neural networks for geographic and opacity extent scoring of SARS-CoV-2 chest X-rays”, Nature Scientific Reports, 2021.
40. R. Bidart∗ and A. Wong, “Disentangling Shape and Orientation with Affine Variational Autoencoders”, Journal of Computational Vision and Imaging Systems, 2021.
41. A. Ebadi, H. Azimi, P. Xi, S. Tremblay, and A. Wong, “COVID-Net FewSE: An Open-Source Deep Siamese Convolutional Network Model for Few-Shot Detection of COVID-19 Infection from X-Ray Images”, Journal of Computational Vision and Imaging Systems, 2021.
42. S. Yun and A. Wong, “What Can You See? Modeling the Ability of V1 Neurons to Perform Low-Level Image Processing”, Journal of Computational Vision and Imaging Systems, 2021.
43. A. MacLean, A. Ebadi, A. Florea, P. Xi, and A. Wong, “An Initial Study into the Feasibility of Deep Learning-Based COVID-19 Severity Classification using Point-of-Care Ultrasound Imaging”, Journal of Computational Vision and Imaging Systems, 2021.
44. A. MacLean, T. Tuinstra, J. Zheng, A. Abbasi, M. Hoshman-Kochi, B. Shen, T. Duong, and A. Wong, “A Preliminary Exploration into the Performance of Severity Encoding Strategies for Deep Learning-Based Severity Stratification of COVID-19 Patients using Chest X-Rays on A Clinical Site Cohort”, Journal of Computational Vision and Imaging Systems, 2021.
45. S. He, P. Xi, A. Ebadi, S. Tremblay, and A. Wong, “Performance or Trust? Why Not Both. Deep AUC Maximization with Self-Supervised Learning for COVID-19 Chest X-ray Classifications”, Journal of Computational Vision and Imaging Systems, 2021.
46. B. Laschowski, W. McNally, A. Wong, J. McPhee, “ExoNet Database: Wearable Camera Images of Human Locomotion Environments”, Frontiers in Robotics and AI, 2020.
47. H. Gunraj, L. Wang∗, and A. Wong, “COVIDNet-CT: A Tailored Deep Convolutional Neural Network Design for Detection of COVID-19 Cases from Chest CT Images”, Frontiers in Medicine, 2020.

48. A. Hryniowski, X. Wang, and A. Wong, “Where Does Trust Break Down? A Quantitative Trust Analysis of Deep Neural Networks via Trust Matrix and Conditional Trust Densities”, Journal of Computational Vision and Imaging Systems, 2020.
49. J. Lee, M. Pavlova, M. Famouri, and A. Wong, “CancerNet-SCa: Tailored Deep Neural Network Designs for Detection of Skin Cancer from Dermoscopy Images”, Journal of Computational Vision and Imaging Systems, 2020.
50. J. Lee, L. Wang, and A. Wong, “EmotionNet Nano: An Efficient Deep Convolutional Neural Network Design for Real-time Facial Expression Recognition”, Frontiers in Artificial Intelligence, 2020.
51. N. Petrick, S. Akbar, K. Cha, et al. (A. Wong), “SPIE-AAPM-NCI BreastPathQ Challenge: An image analysis challenge for quantitative tumor cellularity assessment in breast cancer histology images following neoadjuvant treatment”, Journal of Medical Imaging, 2020.
52. J. Yu, L. Zhang, W. Zheng, L. Wang, L. Xu, and A. Wong, “A deep learning approach for multi-depth soil water content prediction in summer maize growth period”, IEEE Access, 2020.
53. L. Wang, Z. Lin, and A. Wong, “COVID-Net: A Tailored Deep Convolutional Neural Network Design for Detection of COVID-19 Cases from Chest X-Ray Images”, Nature Scientific Reports, 2020.
54. M. Soltani-Sarvestani, Z. Azimifar, A. Wong, and A. Safavi, “An Innovative Eigenvector-Based Method for Traffic Light Scheduling”, Journal of Advanced Transportation, 2020.
55. A. Bonaldi, A. Tao, M. Bruggen, S. Burkutean, Sandra, A. Wong et al., “Square Kilometre Array Science Data Challenge 1: analysis and results”, Monthly Notices of the Royal Astronomical Society, 2020.
56. D. Viggiani, E. Mannen, E. Nelson-Wong A. Wong, G. Ghiselli, K. Shelburne, B. Davidson, J. Callaghan, “Lumbar Intervertebral Kinematics During an Unstable Sitting Task and Its Association With Standing-Induced Low Back Pain”, Journal of Applied Biomechanics, 2020.
57. B. Yu, L. Xu, J. Peng, Z. Hu, and A. Wong, “Global chlorophyll-a concentration estimation from moderate resolution imaging spectroradiometer using convolutional neural networks”, J. Appl. Remote Sens., 2020.
58. J58 X. Liu, D. Wang, X. Yang, A. Wong, “Detecting Pulse Rates from Facial Videos Recorded in Unstable Lighting Conditions: an Adaptive Spatio-Temporal Homomorphic Filtering Algorithm”, IEEE Transactions on Instrumentation and Measurement, 2020.
59. X. Liu, X. Yang, J. Jin, and A. Wong, “Detecting pulse wave from unstable facial videos recorded from consumer-level cameras: a disturbance-adaptive orthogonal matching pursuit”, IEEE Transactions on Biomedical Engineering, 2020.
60. L. Wang, C. Dulhanty, M. Cheng, H. Gunraj, F. Khalvati, M. Haider, and A. Wong, “Radiomics Driven Diffusion Weighted Imaging Sensing Strategies for Zone-level Prostate Cancer Sensing”, Sensors, 2020.
61. A. Al-Jebrni, B. Chwyl, X. Wang, A. Wong, and B. Saab, “AI-Enabled Remote and Objective Quantification of Stress at Scale”, Biomedical Signal Processing and Control, 2020.
62. J. Callaghan, K. Fewster, M. Noguchi, C. Gooyers, and A. Wong, “Exploring the Regional Disc Bulge Response of the Intervertebral Disc Under Varying Loads and Postures”, Journal of Biomechanics, 2020.
63. P. Morita, A. Rocha, G. Shaker, D. Lee, J. Wei, B. Fong, A. Thatte, A. Karimi∗, L. Xu∗∗, A. Ma∗, A. Wong, and J. Boger, “Comparative Analysis of Gait Speed Estimation Using 10GHz and

24GHz Radars, Thermal Camera, and Motion Tracking Suit Technologies", Journal of Healthcare Informatics Research, 2020.

64. L. Yang, L. Xu, J. Peng, Y. Song, A. Wong, and D. Clausi, "Nonlocal Band-weighted Iterative Spectral Mixture Model for Hyperspectral Imagery Denoising", IEEE Transactions on Geoscience and Remote Sensing, 2020.
65. M. Shafiee, A. Jeddi, A. Nazemi, P. Fieguth, and A. Wong, "Deep Neural Networks and Robust Autonomous Driving Systems", IEEE Signal Processing Magazine, 2020.
66. Y. Chen, L. Xu, Y. Fang, J. Peng, W. Yang, A. Wong, and D. Clausi, "Unsupervised Bayesian Subpixel Mapping of Hyperspectral Imagery Based on Band-weighted Discrete Spectral Mixture Model and Markov Random Field", IEEE Geoscience and Remote Sensing Letters, 2020.
67. K. Fewster, S. Haider∗, C. Gooyers, J. Callaghan, and A. Wong, "A computerized system for measurement of the radial displacement of the intervertebral disc using a laser device", Computer Methods in Biomechanics and Biomedical Engineering, 2019.
68. V. Sankar, D. Kumar∗, D. Clausi, G. Taylor, and A. Wong, "SISC: End-to-end Interpretable Discovery Radiomics-Driven Lung Cancer Prediction via Stacked Interpretable Sequencing Cells", IEEE Access Journal, 2019.
69. A. Wong, M. Shafiee∗∗, B. Chwyl, and F. Li, "GenSynth: a new way to understand deep learning", (feature editorial article) IET Electronics Letters, 2019.
70. A. Wong, M. Shafiee, B. Chwyl, and F. Li, "GenSynth: A generative synthesis approach to learning generative machines to generate efficient neural networks", IET Electronics Letters, 2019.
71. A. Nazemi, Z. Azimifar, M. Shafiee, and A. Wong, "Real-time Vehicle Make and Model Recognition Using Unsupervised Feature Learning", IEEE Transactions on Intelligent Transportation Systems, 2019.
72. Z. Zhong, J. Li, D. Clausi, and A. Wong, "Generative Adversarial Networks and Conditional Random Fields for Hyperspectral Image Classification", IEEE Transactions on Cybernetics, 2019.
73. K. Pfisterer, J. Boger, and A. Wong, "Prototyping the Automated Food Imaging and Nutrient Intake Tracking (AFINI-T) system: A modified participatory iterative design sprint", JMIR Human Factors, 2019.
74. M. Shafiee, B. Chwyl, F. Li, R. Chen, M. Karg, C. Scharfenberger, and A. Wong, "StressedNets: Efficient Feature Representations via Stress-induced Evolutionary Synthesis of Deep Neural Networks", Neurocomputing, 2019.
75. C. Wang, L. Xu, D. Clausi, and A. Wong, "A Bayesian Joint Decorrelation and Despeckling of SAR Imagery", IEEE Geoscience and Remote Sensing Letters, 2019.
76. D. Kumar, G. Taylor, and A. Wong, "Discovery Radiomics with CLEAR-DR: Interpretable Computer Aided Diagnosis of Diabetic Retinopathy", IEEE Access Journal, 2019.
77. J. Deglint, C. Jin, and A. Wong, "The Feasibility of Automated Identification of Six Algae Types using Feed-forward Neural Networks and Fluorescence-based Spectral-morphological Features", IEEE Access Journal, 2018.
78. S. Khan, A. Wong, and Brian Tripp, "Guarding Against Adversarial Attacks using Biologically Inspired Contour Integration", Journal of Computational Vision and Imaging Systems, 2018.

79. A. Hryniowski, Z. Azimifar, M. Lamm, P. Fieguth, and A. Wong, “Multi-Projector Content Preservation with Linear Filters”, Journal of Computational Vision and Imaging Systems, 2018.
80. I. Ben Daya, M. Shafiee, M. Karg, C. Scharfenberger, and A. Wong, “On Robustness of Deep Neural Networks: A Comprehensive Study on the Effect of Architecture and Weight Initialization to Susceptibility and Transferability of Adversarial Attacks”, Journal of Computational Vision and Imaging Systems, 2018.
81. W. McNally, A. Wong, and J. McPhee, “Action Recognition using Deep Convolutional Neural Networks and Compressed Spatio-Temporal Pose Encodings”, Journal of Computational Vision and Imaging Systems, 2018.
82. J. Deglint, L. Tang, Y. Wang, C. Jin, and A. Wong, “SAMSON: Spectral Absorption-fluorescence Microscopy System for ON-site-imaging of algae”, Journal of Computational Vision and Imaging Systems, 2018.
83. R. Bidart and A. Wong, “MonolithNet: Training monolithic deep neural networks via a partitioned training strategy”, Journal of Computational Vision and Imaging Systems, 2018.
84. A. Wong, M. Shafiee, and M. St. Jules, “MicronNet: A Highly Compact Deep Convolutional Neural Network Architecture for Real-time Embedded Traffic Sign Classification”, IEEE Access Journal, 2018.
85. I. Khodadad, M. Shafiee, A. Wong, F. Kazemzadeh, and J. Arlette, “Deep Tissue Sequencing using Hypodermoscopy and Augmented Intelligence to Analyze Atypical Pigmented Lesions”, Journal of Cutaneous Medicine & Surgery, 2018.
86. L. Xu, F. Yuan, A. Wong, and D. Clausi, “Unsupervised Bayesian Classification of Hyperspectral Image based on Spectral Mixture Model and Markov Random Field”, IEEE Journal on Special Topics in Remote Sensing, 2018.
87. M. Famouri, Z. Azimifar, and A. Wong, “A Novel Motion Plane-based Approach to Vehicle Speed Estimation”, IEEE Transactions on Intelligent Transportation Systems, 2018.
88. C. Jin, M. Mesquita, J. Deglint, M. Emelko, and A. Wong, “Quantification of cyanobacteria cells via a novel imaging-driven technique with an integrated fluorescence signature”, Nature Scientific Reports, 2018.
89. B. Tan, A. Wong, and K. Bizheva, “Enhancement of morphological and vascular features in OCT images using a modified Bayesian residual transform”, Biomedical Optics Express, 2018.
90. X. Wang, A. Wong, L. Peng, and P. Ho, “Cognitive-Empowered Femtocells: An Intelligent Paradigm for Femtocell Networks”, Wireless Communications and Mobile Computing, 2018.
91. F. Li, L. Xu, A. Wong, and D. Clausi, “ST-IRGS: A Region-Based Self-Training Algorithm applied to Hyperspectral Image Classification and Segmentation”, IEEE Transactions on Geoscience and Remote Sensing, 2018.
92. F. Khalvati, J. Zhang, A. Chung, M. Shafiee, A. Wong, and M. Haider, “MPCaD: A Multi-Scale Radiomics-Driven Framework for Automated Prostate Cancer Localization and Detection”, BMC Medical Imaging, 2018.
93. R. Medeiros, A. Wong, and J. Scharcanski, “Scalable Image Segmentation via Decoupled Sub-graph Compression Pattern Recognition”, Pattern Recognition, 2018.
94. M. Shafiee, A. Mishra, and A. Wong, “Deep Learning with Darwin: Evolutionary Synthesis of Deep Neural Networks”, Neural Processing Letters, 2018.

95. K. Pfisterer, R. Amelard, A. Chung, and A. Wong, “A new take on measuring relative nutritional density: The feasibility of using a deep neural network to assess commercially-prepared pureed food concentrations”, Journal of Food Engineering, 2018.
96. J. Arlette, A. Wong, I. Khodadad, and F. Kazemzadeh, “Deep Tissue Sequencing using augmented intelligence to probe melanocytic lesions”, Journal of Cutaneous Medicine and Surgery, 2017.
97. M. Fani, M. Yazdi, D. Clausi, and A. Wong, “Soccer Video Structure Analysis by Parallel Feature Fusion Network and Hidden-to-Observable Transferring Markov Model”, IEEE Access Journal, 2017.
98. T. Clark, J. Zhang, S. Baig, A. Wong, M. Haider, and F. Khalvati, “Fully Automated Segmentation of Prostate Whole Gland and Transition Zone in Diffusion-weighted MRI using Convolutional Networks”, Journal of Medical Imaging, 2017.
99. M. Shafiee, A. Chung, F. Khalvati, M. Haider, and A. Wong, “Discovery Radiomics via Evolutionary Deep Radiomic Sequencer Discovery for Pathologically-Proven Lung Cancer Detection”, Journal of Medical Imaging, 2017.I. Ben Daya, A. Chen, J. Yeow, and A. Wong, “Compensated Row-Column Ultrasound Imaging System Using Multilayered Edge Guided Stochastically Fully Connected Random Fields”, Nature Scientific Reports, 2017.
100. M. Shafiee∗, P. Siva, P. Fieguth, and A. Wong, “Real-Time Embedded Motion Detection via Neural Response Mixture Modeling”, Journal of Signal Processing Systems, 2017.
101. T. Beltrame, R. Amelard, A. Wong, and R. Hughson, “Extracting aerobic system dynamics during unsupervised activities of daily living using wearable sensor machine learning models”, Journal of Applied Physiology, 2017.
102. Y. Zhang, A. Oikonomou, M. Haider, A. Wong, and F. Khalvati∗∗, “Radiomics-based Prognosis Analysis for Non-Small Cell Lung Cancer”, Nature Scientific Reports, 2017.
103. T. Beltrame, R. Amelard, A. Wong, and R. Hughson, “Prediction of oxygen uptake dynamics by machine learning analysis of wearable sensors during activities of daily living”, Nature Scientific Reports, 2017.
104. F. Li, H. Sekkati, J. Deglint, C. Scharfenberger, M. Lamm, D. Clausi, J. Zelek, and A. Wong, “Simultaneous Projector-Camera Self-Calibration for 3D Reconstruction and Projection Mapping”, IEEE Transactions on Computational Imaging, 2017.
105. A. Chung, P. Fieguth, and A. Wong, “Polyploidism in Deep Neural Networks: m-Parent Evolutionary Synthesis of Deep Neural Networks in Varying Population Sizes”, Journal of Computational Vision and Imaging Systems, 2017.
106. A. Karimi, M. Javad Shafiee, A. Ghodsi, and A. Wong, “Ensembles of Random Projections for Nonlinear Dimensionality Reduction”, Journal of Computational Vision and Imaging Systems, 2017.
107. K. Kasiri, M. Javad Shafiee, F. Li, A. Wong, and J. Eichel, “Efficient Deep Network Architecture for Vision-Based Vehicle Detection”, Journal of Computational Vision and Imaging Systems, 2017.
108. M. Tran, R. Amelard, and A. Wong, “Integrating Multispectral Hemodynamic Imaging for Bulk Tissue Oxygenation Analysis”, Journal of Computational Vision and Imaging Systems, 2017.

109. I. Ben Daya, A. Chen, M. Javad Shafiee, J. Yeow, and A. Wong, “Compensated Row-Column Ultrasound Imaging System Using Edge-Guided Three Dimensional Random Fields”, Journal of Computational Vision and Imaging Systems, 2017.
110. S. Gurm, O. Badawy, and A. Wong, “A Multi-layer Perceptron Approach to Automatically Detect Tissue via NIR Multispectral Imaging”, Journal of Computational Vision and Imaging Systems, 2017.
111. M. Javad Shafiee and A. Wong, “Discovery Radiomics via Deep Multi-Column Radiomic Sequencers for Skin Cancer Detection”, Journal of Computational Vision and Imaging Systems, 2017.
112. D. Kumar, G. Taylor, and A. Wong, “Opening the Black Box of Financial AI with CLEAR-Trade: A CLass-Enhanced Attentive Response Approach for Explaining and Visualizing Deep Learning-Driven Stock Market Prediction”, Journal of Computational Vision and Imaging Systems, 2017.
113. A. Ma, A. Wong, and D. Clausi, “Depth from Defocus via Active Multispectral Quasi-random Point Projections using Deep Learning”, Journal of Computational Vision and Imaging Systems, 2017.
114. M. Javad Shafiee, B. Chwyl, F. Li, and A. Wong, “Fast YOLO: A Fast You Only Look Once System for Real-time Embedded Object Detection in Video”, Journal of Computational Vision and Imaging Systems, 2017.
115. A. MacLean, K. Pfisterer, D. Kumar, R. Amelard, and A. Wong, “Goldilocks and the Three Parameters: Empirically Finding the Just Right for Segmenting Food Images”, Journal of Computational Vision and Imaging Systems, 2017.
116. J. Deglint, C. Jin, and A. Wong, “Automatic Identification of Cyanobacteria Genera Using Multi-band Epifluorescence Microscopy and Machine Learning ”, Journal of Computational Vision and Imaging Systems, 2017.

Papers in refereed conference proceedings

1. Tai, E. Janes, C. Czarnecki, and A. Wong, “Double-Condensing Attention Condenser: Leveraging Attention in Deep Learning to Detect Skin Cancer from Skin Lesion Images”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2023.
2. H. Gunraj, A. Tai, and A. Wong, “Cancer-Net PCa-Data: An Open-Source Benchmark Dataset for Prostate Cancer Clinical Decision Support using Synthetic Correlated Diffusion Imaging Data”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2023.
3. A. Tai, S. Nair, O. Markham, M. Keller, Y. Wu, Y. Chen, and A. Wong, “NutritionVerse-Real: An Open Access Manually Collected 2D Food Scene Dataset for Dietary Intake Estimation”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2023.
4. S. Nair, A. Tai, Y. Wu, Y. Chen, and A. Wong, “NutritionVerse-Synth: An Open Access Synthetically Generated 2D Food Scene Dataset for Dietary Intake Estimation”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2023.
5. O. Markham, Y. Chen, A. Tai, and A. Wong, “FoodFusion: A Latent Diffusion Model for Realistic Food Image Generation”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2023.

6. S. Nair, Y. Chen, M. Shafiee, and A. Wong, “NAS-NeRF: Generative Neural Architecture Search for Neural Radiance Fields”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2023.
7. A. Wong, S. Abbasi, and S. Nair, “TurboViT: Generating Fast Vision Transformers via Generative Architecture Search”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2023.
8. B. VanBerlo, B. Li, J. Hoey, and A. Wong, “Assessing Self-Supervised Pretraining for Multiple Lung Ultrasound Interpretation Tasks”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2023.
9. K. Dhaliwal, J. Simmons, A. Wong, C. Hudson, N. Furtado, T. Wright, B. Ballios, and K. Bizheva, “Transient blood flow changes in the human retina in response to flicker stimulation measured with a combined OCT+ERG system”, SPIE Photonics West, 2023.
10. K. Chen, N. Firoozjah, A. Wong, and K. Bizheva, “Second generation Powell Lens Line-Field OCT for in-vivo, contactless, volumetric imaging of the cellular structure of the human cornea”, SPIE Photonics West, 2023.
11. N. Firoozjah, K. Chen, A. Wong, and K. Bizheva, “Computational approach to correcting defocus in human corneal images acquired with Powell-Lens Line-Field OCT”, SPIE Photonics West, 2023.
12. H. Aboutalebi, D. Mao, R. Fan, C. Xu, C. He, and A. Wong, “DeepfakeArt Challenge: A Benchmark Dataset for Generative AI Art Forgery and Data Poisoning Detection”, IEEE International Conference on Computer Vision (IEEE ICCV) Workshops, 2023.
13. A. Tai, J. Li, S. Kumar, S. Nair, Yuhao Chen, P. Xi, and A. Wong, “NutritionVerse-Thin: An Optimized Strategy for Enabling Improved Rendering of 3D Thin Food Models”, IEEE International Conference on Computer Vision (IEEE ICCV) Workshops, 2023.
14. S. Yun and A. Wong, “Where Should We Begin? A Low-Level Exploration of Weight Initialization Impact on Quantized Behaviour of Deep Neural Networks”, IEEE International Conference on Computer Vision (IEEE ICCV) Workshops, 2023.
15. S. Yun and A. Wong, “GHN-QAT: Training Graph Hypernetworks to Predict Quantization-Robust Parameters of Unseen Limited Precision Neural Networks”, IEEE International Conference on Computer Vision (IEEE ICCV) Workshops, 2023.
16. J. Kuang and A. Wong, “On Calibration of Modern Quantized Efficient Neural Networks”, IEEE International Conference on Computer Vision (IEEE ICCV) Workshops, 2023.
17. A. Tai, M. Keller, S. Nair, Y. Chen, Y. Wu, O. Markham, K. Parmar, P. Xi, H. Keller, S. Kirkpatrick, and A. Wong, “NutritionVerse: Empirical Study of Various Dietary Intake Estimation Approaches”, 8th International Workshop on Multimedia Assisted Dietary Management (ACM International Conference on Multimedia), 2023.
18. A. Tai, H. Gunraj, N. Hodzic, N. Flanagan, A. Sabri, and A. Wong, “Enhancing Clinical Support for Breast Cancer with Deep Learning Models using Synthetic Correlated Diffusion Imaging”, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) Workshops, 2023.
19. K. Zhu, J. McPhee, and A. Wong, “VICE: View-Invariant Chess Estimation”, International Conference on Sport Sciences Research and Technology Support (icSPORTS), 2023.

20. G. Sinha, K. Parmar, H. Azimi, A. Tai, Y. Chen, and A. Wong, “Transferring Knowledge for Food Image Segmentation using Transformers and Convolutions”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2023.
21. E. Zeng, H. Gunraj, S. Fernandez, and A. Wong, “Explaining Explainability: Towards Deeper Actionable Insights into Deep Learning through Second-order Explainability”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2023.
22. A. Hryniowski and A. Wong, “Systematic Architectural Design of Scale Transformed Attention Condenser DNNs via Multi-Scale Class Representational Response Similarity Analysis”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2023.
23. A. Wong, Y. Wu, S. Abassi, S. Nair, Y. Chen, and M. Shafiee, “Fast GraspNeXt: A Fast Self-Attention Neural Network Architecture for Multi-task Learning in Computer Vision Tasks for Robotic Grasping on the Edge”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2023.
24. H. Aboutalebi, A. Tai, M. Shafiee, and A. Wong, “Dual-model Bounded Divergence Gating for Improved Clean Accuracy in Adversarial Robust Deep Neural Networks”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2023.
25. Y. Chen, H. Gunraj, E. Z. Zeng, R. Meyer, M. Gilles, and A. Wong, “MMRNet: Improving Reliability for Multimodal Object Detection and Segmentation for Bin Picking via Multimodal Redundancy”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2023.
26. B. VanBerlo, B. Li, A. Wong, J. Hoey, and R. Arntfield, “Exploring the Utility of Self-Supervised Pretraining Strategies for the Detection of Absent Lung Sliding in M-Mode Ultrasound”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2023.
27. E. Zeng, Y. Chen, and A. Wong, “ShapeShift: Superquadric-based Object Pose Estimation for Robotic Grasping”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2023.
28. A. Tai, H. Gunraj, and A. Wong, “A Multi-Institutional Open-Source Benchmark Dataset for Breast Cancer Clinical Decision Support using Synthetic Correlated Diffusion Imaging Data”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2023.
29. A. Tai, H. Gunraj, and A. Wong, “Cancer-Net BCa-S: Breast Cancer Grade Prediction using Volumetric Deep Radiomic Features from Synthetic Correlated Diffusion Imaging”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2023.
30. A. Tai, M. Keller, M. Kerrigan, Y. Chen, S. Nair, P. Xi, and A. Wong, “NutritionVerse-3D: A 3D Food Model Dataset for Nutritional Intake Estimation”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2023.
31. M. Shahi, D. Clausi, and A. Wong, “GoalieNet: A Multi-Stage Network for Joint Goalie, Equipment, and Net Pose Estimation in Ice Hockey”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2023.
32. N. Teller, J. Chad, A. Wong, H. Gunraj, X. Ji, B. MacIntosh, A. Gilboa, E. Roudaia, A. Sekuler, B. Lam, C. Heyn, S. Black, S. Graham, and J. Chen, “Single-shell diffusion MRI for imaging white-matter microstructure in COVID-19: DTI vs. correlated diffusion imaging”, Annual Meeting of the International Society for Magnetic Resonance in Medicine, 2023.

33. C. Xu, M. Famouri, G. Bathla, M. Shafiee, and A. Wong, “High-Throughput, High-Performance Deep Learning-driven Light Guide Plate Surface Visual Quality Inspection Tailored for Real-world Manufacturing Environments”, AAAI Annual Conference on Innovative Applications of Artificial Intelligence, 2023.
34. H. Gunraj, P. Guerrier, S. Fernandez and A. Wong, “SolderNet: Towards Trustworthy Visual Inspection of Solder Joints in Electronics Manufacturing Using Explainable Artificial Intelligence”, AAAI Annual Conference on Innovative Applications of Artificial Intelligence, 2023.
35. N. Bamra, V. Voleti, A. Wong, and J. Deglint, “Towards Generating Large Synthetic Phytoplankton Datasets for Efficient Monitoring of Harmful Algal Blooms”, AAAI 2022 Fall Symposium Series on the Role of AI in Responding to Climate Challenges, 2022.
36. A. Suko, A. Wong, and V. Choh, “Comparing methods for quantifying myosin distributions in the avian crystalline lens”, the 2022 ARVO Annual Meeting, 2022.
37. J. Song, A. Ebadi, and A. Wong, “Detecting COVID-19 infection from ultrasound imaging with only five shots: A high-performing explainable deep few-shot learning network”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2022.
38. T. Tuinstra, H. Gunraj, and A. Wong, “COVIDx CT-3: A Large-scale, Multinational, Open-Source Benchmark Dataset for Computer-aided COVID-19 Screening from Chest CT Images”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2022.
39. M. Pavlova, T. Tuinstra, H. Aboutalebi, A. Zhao, H. Gunraj∗, and A. Wong, “COVIDx CXR-3: A Large-Scale, Open-Source Benchmark Dataset of Chest X-ray Images for Computer-Aided COVID-19 Diagnostics”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2022.
40. H. Aboutalebi, M. Pavlova, M. Shafiee, A. Florea, A. Hryniowski, and A. Wong, “An Explainability-driven Framework to Building Machine Learning Models for Predicting Survival and Kidney Injury of COVID-19 Patients from Clinical and Biochemistry Data”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2022.
41. R. Meyer and A. Wong, “A Fair Loss Function for Network Pruning”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2022.
42. A. Wong, M. Shafiee∗∗, S. Abbasi∗, S. Nair∗, and M. Famouri, “Faster Attention Is What You Need: A Fast Self-Attention Neural Network Backbone Architecture for the Edge via Double-Condensing Attention Condensers”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2022.
43. S. Yun∗ and A. Wong, “GHN-Q: Parameter Prediction for Unseen Quantized Convolutional Architectures via Graph Hypernetworks”, Edge Intelligence Workshop, 2022.
44. H. Abedi, A. Ansariyan, C. Lehman, P. Morita, J. Boger, A. Wong, and G. Shaker , “Non-Visual and Contactless Wellness Monitoring for Long Term Care Facilities Using mm-Wave Radar Sensors“, IEEE Sensors conference, 2022.
45. W. McNally, K. Vats, A. Wong, and J. McPheem, “Rethinking Keypoint Representations: Modeling Keypoints and Poses as Objects for Multi-Person Human Pose Estimation“, Proceedings of European Conference on Computer Vision (ECCV), 2022.
46. K. Ma, P. Xi, K. Habashy, A. Ebadi, S. Tremblay, A. Wong, “Towards Trustworthy Healthcare AI: Attention-Based Feature Learning for COVID-19 Screening With Chest Radiography“, Proceedings of International Conference on Machine Learning (ICML) Workshops, 2022.

47. M. Gilles, Y. Chen∗∗, T. Winter, E. Zeng∗∗, and A. Wong, “MetaGraspNet: A Large-Scale Benchmark Dataset for Scene-Aware Ambidextrous Bin Picking via Physics-based Metaverse Synthesis”, IEEE International Conference on Automation Science and Engineering, 2022.
48. C. Xu∗, M. Famouri∗∗, G. Bathla∗∗, M. Shafiee∗∗, and Alexander Wong, “A Machine-designed Neural Network for Photovoltaic Cell Defect Detection”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2022.
49. Y. Fang∗, Y. Wang, L. Xu∗∗, Alexander Wong, and D. Clausi, “Bayesian Subpixel Mapping Neural Network for Hyperspectral images”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2022.
50. E. Zeng∗, Adrian Florea, and Alexander Wong, “COVID-Net US-X: Enhanced Deep Neural Network for Detection of COVID-19 Patient Cases from Convex Ultrasound Imaging Through Extended Linear-Convex Ultrasound Augmentation Learning”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2022.
51. B. Gebotys∗, D. Clausi, and Alexander Wong, “M2A: Motion Aware Attention for Accurate Video Action Recognition”, in the Conference on Computer and Robot Vision (CRV), 2022.
52. C. Xu∗, M. Famouri∗∗, G. Bathla∗∗, M. Shafiee∗∗, and Alexander Wong, “LightDefectNet: A Highly Compact Deep Anti-Aliased Attention Condenser Neural Network Architecture for Light Guide Plate Surface Defect Detection”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2022.
53. S. Nair∗, S. Abbasi∗, M. Shafiee∗∗, and Alexander Wong, “MAPLE-Edge: A Runtime Latency Predictor for Edge Devices”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2022.
54. S. Abbasi∗, M. Shafiee∗∗, and Alexander Wong, “MAPLE-X: Latency Prediction with Explicit Microprocessor Prior Knowledge”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2022.
55. S. Abbasi∗, M. Shafiee∗∗, and Alexander Wong, “MAPLE: Microprocessor A Priori for Latency Estimation”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2022. (significant extension on initial work presented at Annual Conference on Neural Information Processing Systems (NIPS) Workshops)
56. K. Zhu∗, A. Wong, and J. McPhee “FenceNet: Fine-grained Footwork Recognition in Fencing”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2022.
57. C. Xu∗, M. Famouri∗∗, G. Bathla∗∗, M. Shafiee∗∗, and Alexander Wong, “CellDefectNet: A Machine-designed Attention Condenser Network for Electroluminescence-based Photovoltaic Cell Defect Inspection”, in the Conference on Computer and Robot Vision (CRV), 2022.
58. G. Michalopoulos, M. Malska, N. Sahar, A. Wong, and H. Chen, “ICDBigBird: A Contextual Embedding Model for ICD Code Classification”, ACL BioNLP 2022, 2022.
59. Y. Yang, Z. Butt, S. Leatherdale, P. Morita, A. Wong, and H. Chen, “Investigating Patterns of Polysubstance Use Among Canadian Youth: A Latent Variable Modelling Approach on COMPASS Data”, Society for Epidemiologic Research Annual Meeting, 2022.
60. Y. Yang, Z. Butt, S. Leatherdale, P. Morita, A. Wong, and H. Chen, “Exploring the Dynamic Transitions of Polysubstance Use Patterns Among Canadian Youth: Application of Latent

Markov Models on COMPASS Data", Society for Epidemiologic Research Annual Meeting, 2022.

61. G. Michalopoulos, I. McKillop, H. Chen, and A. Wong, "LexSubCon: Integrating Knowledge from Lexical Resources into Contextual Embeddings for Lexical Substitution", Annual Meeting of the Association for Computational Linguistics (ACL 2022), 2022.
62. S. Abbasi∗, M. Shafiee, and Alexander Wong, "MAPLE: Microprocessor A Priori for Latency Estimation", Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2021.
63. Y. Li∗, M. Shafiee, and Alexander Wong, "Graph Convolutional Networks for Multi-modality Movie Scene Segmentation", Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2021.
64. A. Chung∗, M. Famouri, A. Hryniowski, and Alexander Wong, "COVID-Net Clinical ICU: Enhanced Prediction of ICU Admission for COVID-19 Patients via Explainability and Trust Quantification", Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2021.
65. X. Liu, X. Yang, Z. Meng, Y. Wang, J. Zhang, and Alexander Wong, "MANet: a Motion-Driven Attention Network for Detecting the Pulse from a Facial Video with Drastic Motions", 2021 IEEE International Conference on Computer Vision Workshops (ICCVW), 2021.
66. A. MacLean∗, S. Abbasi∗, A. Ebadi, A. Zhao∗, M. Pavlova∗, H. Gunraj∗, S. Kohli, P. Xi, and A. Wong, "A Tailored, Highly Efficient, Self-Attention Deep Convolutional Neural Network Design for Detection of COVID-19 Patient Cases from Point-of-care Ultrasound Imaging", MICCAI Workshop on aFfordable healthcare and AI for Resource diverse global health, 2021.
67. A. Chung∗, M. Pavlova∗, H. Gunraj∗, N. Terhljan∗, A. MacLean∗, H. Aboutalebi∗, S. Surana∗, A. Zhao∗, S. Abbasi∗, and A. Wong, "COVID-Net MLSys: Designing COVID-Net for the Clinical Workflow", IEEE CCECE, 2021.
68. F. Zhu, W. Parker, and A. Wong, "Quantification of the mass of microplastics using FPA-based FT-IR imaging", WEAO Technical Symposium and OPCEA Exhibition, 2021.
69. B. Gebotys, D. Clausi, and A. Wong, "POOF: Efficient Goalie Pose Annotation using Optical Flow", International Conference on Sports Science Research and Technology Support (icSPORTS), 2021.
70. B. Laschowski, W. McNally∗, A. Wong, J. McPhee, "Computer Vision and Deep Learning for Environment-Adaptive Control of Robotic Lower-Limb Exoskeletons", Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), 2021.
71. H. Abedi∗, A. Ansariyan, P. Morita, J. Boger, A. Wong, and G. Shaker, "Sequential Deep Learning for In-Home Activity Monitoring Using mm-Wave FMCW Radar", IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, 2021.
72. H. Abedi∗, P. Morita, J. Boger, A. Wong, and G. Shaker, "In-Package Integrated Dielectric Lens Paired with a MIMO mm-Wave Radar for Corridor Gait Monitoring", IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting, 2021.
73. A. Jeddi∗, M. Shafiee∗∗, and A. Wong, "A Simple Fine-tuning Is All You Need: Towards Robust Deep Learning Via Adversarial Fine-tuning", IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2021. Won Outstanding Paper Award.
74. A. Wong, A. Dorfman∗, P. McInnis, and H. Gunraj∗, "Insights into Data through Model Behaviour: An Explainability-driven Strategy for Data Auditing for Responsible Computer

Vision Applications", IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2021.

75. H. Aboutalebi∗, M. Shafiee∗∗, and A. Wong, "Adversarial Variance Attacks: Deeper Insights into Adversarial Machine Learning through the Eyes of Bias-Variance Impact", IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2021.
76. H. Aboutalebi∗, M. Shafiee∗∗, and A. Wong, "Residual Error: a New Performance Measure for Adversarial Robustness", IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2021.
77. M. Pavlova∗, N. Terhljan∗, A. Chung∗, A. Zhao∗, A. Sabri, A. Alaref, and A. Wong, "COVID-Net CXR-2: An Enhanced Deep Convolutional Neural Network Design for Detection of COVID-19 Cases from Chest X-ray Images", IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2021.
78. H. Aboutalebi∗, M. Pavlova∗, M. Shafiee∗∗, A. Sabri, A. Alaref, and A. Wong, "COVID-Net CXR-S: Deep Convolutional Neural Network for Severity Assessment of COVID-19 Cases from Chest X-ray Images", IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2021.
79. W. McNally∗, K. Vats∗∗, P. Walters∗, J. McPhee, and A. Wong, "DeepDarts: Modeling Keypoints as Objects for Automatic Scorekeeping in Darts using a Single Camera", IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2021.
80. P. Walters∗, M. Fani∗∗, D. Clausi, J. Zelek, and A. Wong, "Localization of Ice-Rink for Broadcast Hockey Videos", IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2021.
81. S. Abbasi∗, M. Famouri, M. Shafiee∗∗, and A. Wong, "OutlierNets: Highly Compact Deep Autoencoder Network Architectures for On-Device Acoustic Anomaly Detection", IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2021.
82. X. Wen, M. Famouri, A. Hryniowski∗, M. Shafiee∗∗, and A. Wong, "AttendSeg: A Tiny Attention Condenser Neural Network for Semantic Segmentation on the Edge", IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2021.
83. S. Yun∗ and A. Wong, "Do All MobileNets Quantize Poorly? Gaining Insights into the Effect of Quantization on Depthwise Separable Convolutional Networks Through the Eyes of Multi-scale Distributional Dynamics", IEEE Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2021.
84. J. Zhang, H. Azimi, A. Shim, P. Xi, A. Ebadi, S. Tremblay, and A. Wong, "COVID-19 Detection from Chest X-ray Images using Imprinted Weights Approach", International Conference on Learning Representations (ICLR) Workshops, 2021.
85. A. Ebadi, P. Xi, A. MacLean∗, S. Tremblay, S. Kohli, and A. Wong, "An open-access benchmark ultrasound imaging dataset for AI-driven COVID-19 diagnosis", International Conference on Learning Representations (ICLR) Workshops, 2021.
86. H. Gunraj∗, A. Sabri, D. Koff, and A. Wong, "COVID-Net CT-2: Enhanced Deep Neural Networks for Detection of COVID-19 from Chest CT Images Through Bigger, More Diverse Learning", International Conference on Learning Representations (ICLR) Workshops, 2021.
87. A. Aboutalebi∗, S. Abbasi∗, M. Shafiee∗∗, and A. Wong, "COVID-Net CT-S: 3D Convolutional Neural Network Architectures for COVID-19 Severity Assessment Using Chest CT Images", International Conference on Learning Representations (ICLR) Workshops, 2021.

88. A. Wong, X. Wang, and A. Hryniowski∗, “How Much Can We Really Trust You? Towards Simple, Interpretable Trust Quantification Metrics for Deep Neural Networks”, International Conference on Learning Representations (ICLR) Workshops, 2021.
89. G. Michalopoulos∗, Y. Wang∗, H. Kaka, H. Chen, and A. Wong, “UmlsBERT: Clinical Domain Knowledge Augmentation of Contextual Embeddings Using the Unified Medical Language System Metathesaurus”, Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL), 2021.
90. S. Abbasi∗, M. Shafiee∗∗, E. Chan, and A. Wong, “Does Form Follow Function? An Empirical Exploration of the Impact of Deep Neural Network Architecture Design on Hardware-Specific Acceleration”, tinyML Research Symposium, 2021.
91. H. Aboutalebi∗, M. Shafiee∗∗, M. Karg, C. Scharfenberger, and A. Wong, “Vulnerability Under Adversarial Machine Learning: Bias or Variance?”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2020.
92. A. Hryniowski∗ and A. Wong, “Inter-layer Information Similarity Assessment of Deep Neural Networks Via Topological Similarity and Persistence Analysis of Data Neighbour Dynamics”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2020.
93. A. Wong, M. Famouri∗∗, M. Pavlova∗, and S. Surana∗, “TinySpeech: Attention Condensers for Deep Speech Recognition Neural Networks on Edge Devices”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2020.
94. A. Wong, M. Famouri∗∗, and M. Shafiee∗∗, “AttendNets: Tiny Deep Image Recognition Neural Networks for the Edge via Visual Attention Condensers”, Workshop on Energy Efficient Machine Learning and Cognitive Computing, 2020.
95. S. Yun∗ and A. Wong, “FactorizeNet: Progressive Depth Factorization for Efficient CNN Architecture Exploration Under Quantization Constraints”, Workshop on Energy Efficient Machine Learning and Cognitive Computing, 2020.
96. S. Khan∗, A. Wong, and B. Tripp, “Task-Driven Learning of Contour Integration Responses in a V1 Model”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2020.
97. N. Day∗, E. Taylor, B. Tripp, A. Wong, and G. Taylor, “Identifying and interpreting tuning dimensions in deep networks”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2020.
98. Y. Fang∗, Y. Hao∗∗, L. Xu∗∗, and A. Wong, “Domain Adaptive Shake-shake Residual Network for Corn Disease Recognition”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2020.
99. L. Wang∗, M. Famouri, A. Wong, “DepthNet Nano: A Highly Compact Self-Normalizing Neural Network for Monocular Depth Estimation”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2020.
100. A. Wong, Z. Lin∗, L. Wang∗, A. Chung∗, B. Shen, A. Abbasi, M. Hoshmand-Kochi, and T. Duong, “COVIDNet-S: SARS-CoV-2 lung disease severity grading of chest X-rays using deep convolutional neural networks”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2020.
101. A. Wong, A. Hryniowski∗, X. Wang, “Insights into Fairness through Trust: Multi-scale Trust Quantification for Financial Deep Learning”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2020.

102. Y. Chen, Y. Wu, L. Xu, and A. Wong, “Quantization in Relative Gradient Angle Domain For Building Polygon Estimation”, International Conference on Pattern Recognition (ICPR), 2021.
103. G. Michalopoulos, H. Chen, and A. Wong, “Where’s the Question? A Multi-channel Deep Convolutional Neural Network for Question Identification in Textual Data”, ClinicalNLP, 2020.
104. S. Sengupta, A. Wong, A. Singh Brar, J. Zelek, and V. Lakshminarayanan, “DeSupGAN: Multi-scale Feature Averaging Generative Adversarial Network for Simultaneous De-blurring and Super-resolution of Retinal Fundus Images”, MICCAI Workshop on Ophthalmic Medical Image Analysis, 2020.
105. J. Lee∗ and A. Wong, “AEGIS: A real-time multimodal augmented reality computer vision based system to assist facial expression recognition for individuals with autism spectrum disorder”, Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) Annual Conference, 2020.
106. B. Laschowski, W. McNally∗, A. Wong, J. McPhee, “Comparative Analysis of Environment Recognition Systems for Control of Lower-Limb Exoskeletons and Prostheses”, IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics, 2020.
107. A. Chung∗, P. Fieguth, and A. Wong, “Revisiting 2-Parent Evolutionary Synthesis for Efficient Deep Neural Networks”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2020.
108. L. Wang∗ and A. Wong, “DepthNet Nano: A Highly Compact Self-Normalizing Neural Network for Monocular Depth Estimation”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2020.
109. A. Chung∗, Z. Lin, X. Wang, and A. Wong, “Explainability in AI: Significance, Implications, and Best Practices for Industry”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2020.
110. J. Lee∗, L. Wang∗, and A. Wong, “EmotionNet Nano: An Efficient Deep Convolutional Neural Network Design for Real-time Facial Expression Recognition”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2020.
111. Y. Fang, L. Xu∗∗, Y. Chen∗∗, and A. Wong, “Maize disease recognition from hand-held camera images via a compact shake-shake boosted multi-branch deep residual neural network architecture”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR) Workshops, 2020.
112. J. Lee∗ and A. Wong, “TimeConvNets: A Deep Time Windowed Convolution Neural Network Design for Real-time Video Facial Expression Recognition”, Conference on Computer and Robot Vision, 2020.
113. A. Jeddi∗, M. Shafiee∗∗, M. Karg, C. Scharfenberger, and A. Wong, “Learn2Perturb: Improving Adversarial Robustness on Deep Neural Networks through End-to-end Feature Perturbation Learning”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR), 2020.
114. Z. Zhong∗, Z. Lin∗, I. Ben Daya∗, R. Bidart∗, X. Hu∗, and A. Wong, “Squeeze-and-Attention Networks for Semantic Segmentation”, IEEE Conference on Computer Vision and Pattern Recognition (IEEE CVPR), 2020.
115. M. Shafiee∗∗, A. Hryniowski∗, F. Li, Z. Lin∗, and A. Wong, “State of Compact Architecture Search For Deep Neural Networks”, Edge Intelligence 2020, 2020.

116. D. Kumar∗, P. Siva, P. Marchwica, and A. Wong, “Unsupervised Domain Adaptation in Person re-ID via k-Reciprocal Clustering and Large-Scale Heterogeneous Environment Synthesis”, IEEE Winter Conference on Applications of Computer Vision (WACV 2020), 2020.
117. H. Chen, G. Michalopoulos, H. Qazi, A. Wong, and K. Hendrick, “Automatic extraction of risk factors for dialysis patients from clinical notes using natural language processing techniques”, Medical Informatics Europe Conference, 2020.
118. H. Chen, G. Michalopoulos, H. Qazi, A. Wong, and K. Hendrick, “Automatic extraction of risk factors for dialysis patients using NLP”, e-Health 2020 Conference, 2020.
119. C. Dulhanty∗ and A. Wong, “Investigating the Impact of Inclusion in Face Recognition Training Data on Individual Face Identification”, AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society, 2020.
120. A. Hryniowski∗, A. Wong, “DeepLABNet: End-to-end Learning of Deep Radial Basis Networks with Fully Learnable Basis Functions”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2019.
121. Z. Lin∗∗, M. Shafiee∗∗, S. Bochkarev, M. St. Jules, X. Wang, and A. Wong, “Do Explanations Reflect Decisions? A Machine-centric Strategy to Quantify the Performance of Explainability Algorithms”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2019.
122. Z. Lin∗∗ and A. Wong, “Progressive Label Distillation: Learning Input-Efficient Deep Neural Networks”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2019.
123. A. Wong, M. Famouri∗∗, M. Shafiee∗∗, F. Li, B. Chwyl, and J. Chung∗, “YOLO Nano: a Highly Compact You Only Look Once Convolutional Neural Network for Object Detection”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2019.
124. A. Hryniowski∗ and A. Wong, “Modelling Convolution as a Finite Set of Operations Through Transformation Semigroup Theory”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2019.
125. I. Ben Daya∗, M. Shafiee∗∗, M. Karg, C. Scharfenberger, and A. Wong, “SANER: Efficient Stochastically Activated Network Ensembles for Adversarial Robustness Through Randomized Assembly”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2019.
126. A. Jeddi∗, M. Shafiee∗∗, M. Karg, C. Scharfenberger, and A. Wong, “Learn2Perturb: Improving Adversarial Robustness on Deep Neural Networks through End-to-end Feature Perturbation Learning”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2019.
127. C. Dulhanty∗, J. Deglint∗, I. BenDaya∗, and A. Wong, “Taking a Stance on Fake News: Towards Automatic Disinformation Assessment via Deep Bidirectional Transformer Language Models for Stance Detection”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2019.
128. L. Wang∗, C. Dulhanty∗, A. Chung∗, F. Khalvati, M. Haider, and A. Wong, “Zone-DR: Discovery Radiomics via Zone-level Deep Radiomic Sequencer Discovery for Zone-based Prostate Cancer Grading using Diffusion Weighted Imaging”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2019.

129. H. Chen, G. Michalopoulos∗, S. Subendran, R. Quinn, M. Oliver, Y. Yang, Z. Butt, and A. Wong, “Interpretability of Machine Learning Models for Health Data - A Case Study”, First International Workshop Interpretability: Methodologies and Algorithms (IMA2019), 2019.
130. M. Shafiee, M. Nentwig, Y. Kassahun, F. Li, S. Bochkarev, A. Kamal, D. Dolson, S. Altintas, A. Virani, and Wong, “Human-Machine Collaborative Design for Accelerated Design of Compact Deep Neural Networks for Autonomous Driving”, British Machine Vision Conference (BMVC) Workshops, 2019.
131. M. Bagheri Orumi, M. Hadi Sepanj, M. Famouri, Z. Azimifar, and A. Wong, “Unsupervised Deep Shape from Template”, International Conference on Image Analysis and Recognition (ICIAR), 2019.
132. K. Vats∗, H. Neher∗, A. Wong, D. Clausi, and J. Zelek, “KPTransfer: improved performance and faster convergence from keypoint subset-wise domain transfer in human pose estimation”, International Conference on Image Analysis and Recognition (ICIAR), 2019.
133. J. Deglint∗, C. Jin, and A. Wong, “Investigating the Automatic Classification of Algae via Deep Residual Learning”, International Conference on Image Analysis and Recognition (ICIAR), 2019.
134. R. Bidart∗ and A. Wong, “TriResNet: A Deep Triple-stream Residual Network for Histopathology Grading”, International Conference on Image Analysis and Recognition (ICIAR), 2019.
135. A. Wong, “NetScore: Towards Universal Metrics for Large-scale Performance Analysis of Deep Neural Networks for Practical On-Device Edge Usage”, International Conference on Image Analysis and Recognition (ICIAR), 2019.
136. A. Boroomand∗∗, B. Tan, M. Shafiee∗∗, K. Bizheva, and A. Wong, “A Random Field Computational Adaptive Optics Framework for Optical Coherence Microscopy”, International Conference on Image Analysis and Recognition (ICIAR), 2019.
137. R. Bidart∗ and A. Wong, “Affine Variational Autoencoders”, International Conference on Image Analysis and Recognition (ICIAR), 2019.
138. I. Ben Daya∗, J. Yeow, and A. Wong, “Compensated Row-Column Ultrasound Imaging Systems with Data-driven Point Spread Function Learning ”, International Conference on Image Analysis and Recognition (ICIAR), 2019.
139. R. Bidart∗ and A. Wong, “Affine Variational Autoencoders: An Efficient Approach for Improving Generalization and Robustness to Distribution Shift”, International Conference on Machine Learning (ICML) Workshops, 2019.
140. Z. Lin∗, B. Chwyl, and A. Wong, “EdgeSegNet: A Compact Network for Semantic Segmentation”, International Conference on Machine Learning (ICML) Workshops, 2019.
141. K. Pfisterer∗, J. Boger, and A. Wong, “Food for Thought: Ethical considerations of user trust in computer vision”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
142. I Ben Daya∗, M. Shafiee∗∗, M. Karg, C. Scharfenberger, and A. Wong, “SANE: Towards Improved Prediction Robustness via Stochastically Activated Network Ensembles”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
143. L. Wang∗ and A. Wong, “Implications of Computer Vision Driven Assistive Technologies Towards Individuals with Visual Impairment”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.

144. C. Dulhanty∗ and A. Wong, “Auditing ImageNet: Towards A Model-driven Framework for Annotating Demographic Attributes of Large-Scale Image Datasets”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
145. R. Bond, A. Koene, A. Dix, J. Boger, M. Mulvenna, M. Galushka, B. Waterhouse-Bradley, F. Browne, H. Wang, and A. Wong, “Democratisation of Usable Machine Learning in Computer Vision”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
146. I Ben Daya∗, M. Shafiee∗∗, M. Karg, C. Scharfenberger, and A. Wong, “SANE: Exploring Adversarial Robustness With Stochastically Activated Network Ensembles”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
147. D. Kumar∗, I Ben Daya∗, K. Vats∗, J. Feng, G. Taylor, and A. Wong, “Beyond Explainability: Leveraging Interpretability for Improved Adversarial Learning”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
148. L. Wang∗ and A. Wong, “Enabling Computer Vision Driven Assistive Devices for the Visually Impaired via Micro-architecture Design Exploration”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
149. K. Pfisterer∗, R. Amelard, B. Syrnyk∗, and A. Wong, “Towards computer vision powered color-nutrient assessment of pur´eed food”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
150. X. Hu∗, M. Naiel∗∗, P. Fieguth, and A. Wong, “RUNet: A Robust UNet Architecture for Image Super-Resolution”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
151. X. Hu∗, M. Naiel∗∗, P. Fieguth, and A. Wong, “ClearGAN: Photo-Realistic High-Resolution Text-to-Image Synthesis via Joint Inter-modal and Intra-modal Attention Modeling”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
152. A. Chung∗, P. Fieguth, and A. Wong, “Assessing Architectural Similarity in Populations of Deep Neural Networks”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
153. A. Wong, Z. Lin∗, and B. Chwyl, “AttoNets: Compact and Efficient Deep Neural Networks for the Edge via Human-Machine Collaborative Design”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
154. M.S. Shafiee∗∗, M. Shafiee∗∗, and A. Wong, “Dynamic Representations Toward Efficient Inference on Deep Neural Networks by Decision Gates”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
155. C155 W. McNally∗, K. Vats, T. Pinto, C. Dulhanty∗, J. McPhee, and A. Wong, “GolfDB: A Video Database for Golf Swing Sequencing”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2019.
156. B. Laschowski, W. McNally∗, J. McPhee, and A. Wong, “Preliminary Design of an Environment Recognition System for Controlling Robotic Lower-Limb Prostheses and Exoskeletons”, IEEE-RAS-EMBS International Conference on Rehabilitation Robotics (ICORR), 2019.
157. W. McNally∗, J. McPhee, and A. Wong, “STAR-Net: Action Recognition using Spatio-Temporal Activation Reprojection”, Computer and Robotic Vision Conference, 2019.

158. L. Xu∗∗, Y. Fang, A. Wong, and D. Clausi, “Unsupervised Feature Learning via Deep Stacked Autoencoder for Improved LUT Inversion of Biochemical and Biophysical parameters using the PROSAIL model”, the Canadian Symposium on Remote Sensing & Geomatics Atlantic, 2019.
159. L. Xu∗∗, Y. Fang, A. Wong, and D. Clausi, “A python-based batch-processing Photoscan plugin for fast stitching large-volume UAV snapshot hyperspectral images”, the Canadian Symposium on Remote Sensing & Geomatics Atlantic, 2019.
160. Y. Fang, Z. Hu, L. Xu∗∗, A. Wong, and D. Clausi, “Estimation of iron concentration in soil of a mining area from UAV-based hyperspectral imagery”, the Canadian Symposium on Remote Sensing & Geomatics Atlantic, 2019.
161. P. Pfisterer∗, H. Keller, L. Duizer, and A. Wong, “A novel approach to automatically categorize food items for understanding food intake patterns and its application to food consumption frequencies in Canadian long-term care homes”, the Canadian Nutrition Society 2019 Annual Conference, 2019.
162. Z. Hosseinae, H. Le, O. Kralj, A. Wong, L. Sorbara, and K. Bizheva, “Fully automated segmentation algorithm for corneal nerves analysis from in-vivo UHR-OCT images”, the 2019 ARVO Annual Meeting, 2019.
163. J. Deglint∗, C. Jin, and A. Wong, “Analysis of the Automatic Classification of Ten Types of Algae using a Custom Multispectral Microscope and Deep Learning”, Ontario’s Water Conference & Trade Show, 2019.
164. P. Morita, A. Rocha, G. Shaker, D. Lee, J. Wei, B. Fong, A. Thatte, A. Karimi∗, L. Xu∗∗, A. Ma∗, A. Wong, and J. Boger, “Comparison of Gait Speed Estimation of Multiple Sensor-based Technologies”, International Symposium on Human Factors and Ergonomics in Health Care (HFES 2019), 2019.
165. J. Deglint∗, C. Jin, and A. Wong, “A Multispectral Bayesian-based Computational Microscopy Method for Enhancing Image Quality”, SPIE Photonics West, 2019.
166. D. Kabiljagic∗, and A. Wong, “Resolution-enhanced digital epiluminescence microscopy using a deep computational optics”, SPIE Photonics West, 2019.
167. F. Kazemzadeh∗, and A. Wong, “Enhanced spectral lightfield fusion microscopy via deep computational optics for whole-slide pathology”, SPIE Photonics West, 2019.
168. X. Hu, A. Chung∗, P. Fieguth, F. Khalvati, M. Haider, and A. Wong, “ProstateGAN: Mitigating Data Bias via Prostate Diffusion Imaging Synthesis with Generative Adversarial Networks”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2018.
169. A. Wong, M. Shafiee∗∗, B. Chwyl, and F. Li, “FermiNets: Learning generative machines to generate efficient neural networks via generative synthesis”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2018.
170. Z. Lin∗, A. Chung∗, and A. Wong, “EdgeSpeechNets: Highly Efficient Deep Neural Networks for Speech Recognition on the Edge”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2018.
171. A. Chung∗, P. Fieguth, and A. Wong, “Mitigating Architectural Mismatch During the Evolutionary Synthesis of Deep Neural Networks”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2018.

172. M.S. Shafiee∗, M. Shafiee∗∗, and A. Wong, “Efficient Inference on Deep Neural Networks by Dynamic Representations and Decision Gates”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2018.
173. J. Deglint∗, J. Chao∗∗, and A. Wong, “Investigation of the Fusion of Spectral and Morphological Characteristics of Algae for Automatic Classification” in the AWWA Water Quality Technology Conference and Exposition, 2018.
174. A. Boroomand∗∗, J. Wei, J. Boger, G. Shaker, A. Wong, and P. Morita, “Autonomous Tracking of Older Adults Normal and Slow Walking Speeds Using 24GHz Radar” in the International Joint Conferences on Artificial Intelligence (IJCAI) workshops, 2018.
175. Y. Fang, L. Xu∗∗, J. Peng, Wang, H. Wang, D. Clausi, and A. Wong, “Retrieval and Mapping of Heavy Metal Concentration in Soil Using Time Series Landsat 8 Images” in the International Society for Photogrammetry and Remote Sensing (ISPRS) Technical Commission III Symposium on Developments, Technologies and applications in Remote Sensing, 2018.
176. A. Ma∗, D. Clausi, and A. Wong, “Deep Learning-driven Depth from Defocus via Active Multispectral Quasi-random Projections with Complex Subpatterns”, in the Conference on Computer and Robot Vision (CRV), 2018.
177. A. Chung∗, P. Fieguth, and A. Wong, “Nature vs. Nurture: The Role of Environmental Resources in Evolutionary Deep Intelligence”, in the Conference on Computer and Robot Vision (CRV), 2018.
178. A. Hryniowski∗, I. Ben Daya∗, A. Gawish∗∗, M. Lamm, A. Wong, and P. Fieguth, “Multi-Projector Resolution Enhancement through Biased Interpolation”, in the Conference on Computer and Robot Vision (CRV), 2018.
179. H. Neuer∗, K. Vats∗, A. Wong, and D. Clausi, “HyperStackNet: A hyper stacked hourglass deep convolutional neural network architecture for joint player and stick pose estimation in hockey”, in the Conference on Computer and Robot Vision (CRV), 2018.
180. A. Wong, M. Shafiee∗∗, F. Li∗, and B. Chwyl∗, “Tiny SSD: A Tiny Single-shot Detection Deep Convolutional Neural Network for Real-time Embedded Object Detection”, in the Conference on Computer and Robot Vision (CRV), 2018.
181. A. Ma∗, A. Gawish∗∗, M. Lamm, A. Wong, and P. Fieguth, “Real-time Spatial-based Projector Resolution Enhancement”, Conference of Society of Information Display, 2018.
182. S. Haider∗, M. Tran∗, and A. Wong, “Computational circular dichroism estimation for point-of-care diagnostics via vortex half-wave retarders”, SPIE Photonics West, 2018.
183. K. Pfisterer∗, R. Amelard∗, and A. Wong, “Differential color space analysis for investigating nutrient content in a pureed food dilution-flavor matrix: a step toward objective malnutrition risk assessment”, SPIE Photonics West, 2018.
184. R. Amelard∗, K. Pfisterer∗, S. Jagani, D. Clausi, and A. Wong, “Non-contact assessment of obstructive sleep apnea cardiovascular biomarkers using photoplethysmography imaging”, SPIE Photonics West, 2018.
185. D. Kumar∗, V. Menkovski, G. Taylor, and A. Wong, ”Understanding anatomy classification through attentive response maps”, in the IEEE International Symposium on Biomedical Imaging, 2018.
186. A. Boroomand∗∗, P. Morita, G. Shaker, A. Wong, and J. Boger, “Autonomous Gait Speed Estimation using 24GHz FMCW Radar Technology”, IEEE International Conference on Biomedical and Health Informatics, 2018.

187. M. Shafiee∗∗, F. Li∗, B. Chwyl∗, and A. Wong, “SquishedNets: Squishing SqueezeNet further for edge device scenarios via deep evolutionary synthesis”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2017.
188. D. Kumar∗, G. Taylor, and A. Wong, “CLEAR-DR: Interpretable Computer Aided Diagnosis of Diabetic Retinopathy”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2017. Won Best Paper Award.
189. A. Karimi∗, E. Banijamali1∗, A. Wong, and A. Ghodsi, “JADE: Joint Autoencoders for Dis-Entanglement”, Annual Conference on Neural Information Processing Systems (NIPS) Workshops, 2017.
190. A. Chung∗, M. Shafiee∗, P. Fieguth, and A. Wong, “The Mating Rituals of Deep Neural Networks: Learning Compact Feature Representations through Sexual Evolutionary Synthesis”, IEEE International Conference on Computer Vision Workshops (IEEE ICCV), 2017.
191. M. Shafiee∗, E. Barshan∗, F. Li∗, B. Chwyl∗, M. Karg, C. Scharfenberger, and A. Wong, “Learning Efficient Deep Feature Representations via Transgenerational Genetic Transmission of Environmental Information during Evolutionary Synthesis of Deep Neural Networks”, IEEE International Conference on Computer Vision Workshops (IEEE ICCV), 2017.
192. D. Kumar∗, G. Taylor, and A. Wong, “Explaining the Unexplained: A CLass-Enhanced Attentive Response (CLEAR) Approach to Understanding Deep Neural Networks”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2017.
193. H. Neher∗, M. Fani, D. Clausi, A. Wong, and J. Zelek, “Hockey Activity Recognition via Integrated Stacked Hourglass Network”, IEEE Conference on Computer Vision and Pattern Recognition Workshops (IEEE CVPRW), 2017.
194. H. Neher∗, M. Fani, D. Clausi, A. Wong, and J. Zelek, “Pose Estimation of Players in Hockey Videos using Convolutional Neural Networks”, Ottawa Hockey Analytics Conference, 2017.
195. M. Shafiee∗∗, F. Li∗, and A. Wong, “Exploring the Imposition of Synaptic Precision Restrictions for Evolutionary Synthesis of Deep Neural Networks”, Conference on Cognitive Computational Neuroscience, 2017.
196. A. Karimi∗, M. Shafiee∗∗, A. Ghodsi, and A. Wong, “Synthesizing Deep Neural Network Architectures using Biological Synaptic Strength Distributions”, Conference on Cognitive Computational Neuroscience, 2017.
197. S. Greenberg∗, A. Chung∗, and A. Wong, “Nebula: Live Dynamic Projection Mapping via Object Saliency”, Bridges 2017 conference, 2017.
198. M. Shafiee∗∗., P. Fieguth, and A. Wong, “Forming A Random Field via Stochastic Cliques: From Random Graphs to Fully Connected Random Fields”, Future Technologies Conference (FTC), 2017.
199. M. Shafiee∗∗., E. Barshan, and A. Wong, “Evolution in Groups: A deeper look at synaptic cluster driven evolution of deep neural networks”, Future Technologies Conference (FTC), 2017.
200. B. Chwyl∗, A. Chung∗, M. Shafiee∗, Y. Fu, and A. Wong, “DeepPredict: A Deep Predictive Intelligence Platform for Patient Monitoring”, Annual International Conference of the IEEE Engineering in Medicine and Biology Society (IEEE EMBC), 2017.
201. S. Haider∗, F. Kazemzadeh∗, and A. Wong, “Computational laser intensity stabilisation for organic molecule concentration estimation in low-resource settings”, SPIE Photonics West, 2017.

202. A. Boroomand∗, A. Wong, and K. Bizheva, “A Stochastically Fully Connected Conditional Random Field Framework for Super Resolution OCT”, SPIE Photonics West, 2017.
203. R. Amelard∗, R. L. Hughson, D. A. Clausi, A. Wong, “Non-contact arrhythmia assessment in natural settings: a step toward preventive cardiac care”, SPIE Photonics West, 2017.
204. R. Amelard∗, R. L. Hughson, D. A. Clausi, A. Wong, “Assessing photoplethysmographic imaging performance beyond facial perfusion analysis”, SPIE Photonics West, 2017.
205. A. Gawish, J. Deglint∗, K. Zuj, M. Egana, J. Rocha, A. Wong, and R. Hughson, “Determining arterial blood velocity using MAUI software from recorded Doppler ultrasound videos”, the Annual Meeting of North American Artery, 2017.
206. T. Clark, A. Wong, F. Khalvati∗∗, and M.A. Haider, “Fully Deep Convolutional Neural Networks for Segmentation of the Prostate Gland in Diffusion-Weighted MR Images”, International Conference on Image Analysis and Recognition (ICIAR), 2017.
207. J. Zhang, S. Baig, A. Wong, F. Khalvati∗∗, and M.A. Haider, “Segmentation of Prostate in Diffusion MR Images via Clustering”, International Conference on Image Analysis and Recognition (ICIAR), 2017.
208. D. Cho∗, F. Khalvati∗∗, D. Clausi, and A. Wong, “A Machine Learning-Driven Approach to Computational Physiological Modeling of Skin Cancer”, International Conference on Image Analysis and Recognition (ICIAR), 2017.
209. A. Karimi∗, A. Chung∗, M. Shafiee∗, F. Khalvati∗∗, M.A. Haider, A. Ghodsi, and A. Wong, “Discovery Radiomics via a Mixture of Deep ConvNet Sequencers for Multi-Parametric MRI Prostate Cancer Classification”, International Conference on Image Analysis and Recognition (ICIAR), 2017.
210. D. Kumar∗, A. Chung∗, M. Shafiee∗, F. Khalvati∗∗, M.A. Haider, and A. Wong, “Discovery Radiomics for Pathologically-Proven Computed Tomography Lung Cancer Prediction”, International Conference on Image Analysis and Recognition (ICIAR), 2017.
211. I. Ben Daya∗, A. Chen, M. Shafiee∗, A. Wong, and J. Yeow, “Compensated Row-Column Ultrasound Imaging System Using Three Dimensional Conditional Random Fields”, International Conference on Image Analysis and Recognition (ICIAR), 2017.
212. A. Ma∗ and A. Wong “Depth from Defocus via Active Quasi-random Point Projections: A Deep Learning Approach”, International Conference on Image Analysis and Recognition (ICIAR), 2017.
213. A. Boroomand∗, M. Shafiee∗, L. Wang∗, E. Kuang∗, F. Kazemzadeh∗, and A. Wong, “Compensated lens-free light field spectroscopy”, International Conference on Inverse Problems in Engineering (ICIPE), 2017.
214. A. Ma∗ and A. Wong, “Depth from defocus via active quasi-random point projections”, International Conference on Inverse Problems in Engineering (ICIPE), 2017.
215. F. Khalvati∗∗, J. Zhang, S. Baig, A. Wong, and M.A. Haider, “Flipping the Computer Aided Diagnosis (CAD) Training Paradigm for Prostate Cancer: Using PIRADS Reporting of Multi-Parametric MRI (mpMRI) to Train a CAD System and then Validating with Pathology”, Annual Meeting of the Imaging Network of Ontario, 2017.
216. A. Karimi∗, A. Chung∗, M. Shafiee∗, F. Khalvati∗∗, M.A. Haider, A. Ghodsi, and A. Wong “Discovery Radiomics via a Mixture of Expert Sequencers using Layered Random Projections (LaRP) for Prostate Cancer Classification”, Annual Meeting of the Imaging Network of Ontario, 2017.

217. D. Kumar∗, V. Menkovski∗, F. Khalvati∗∗, M.A. Haider, and A. Wong “Deep Medical Imaging Visualization for Clinical Decision Support”, Annual Meeting of the Imaging Network of Ontario, 2017.
218. I. Ben Daya∗, A. Chen, M. Shafiee∗, A. Wong, and J. Yeow, “Compensated Row-Column Ultrasound Imaging System Using Conditional Random Fields”, Annual Meeting of the Imaging Network of Ontario, 2017.
219. P. Dash, A. Mishra, and A. Wong, “VeNICE: A Very Deep Neural Network Approach to No-Reference Image Assessment”, IEEE International Conference on Industrial Technology, 2017.
220. T. Hesham, H. Zhao, and A. Wong, “Unsupervised Domain Adaptation with a Relaxed Covariate Shift Assumption”, AAAI Conference on Artificial Intelligence, 2017.

Invited/keynote addresses/panels

1. The Future of AI Lies in Trust, Tech Horizon Executive Webinar, 2023.
2. A Hitchhiker’s Guide to ChatGPT and Generative AI, University of Waterloo Research Advisory Council Meeting, 2023.
3. The Value of Ethical and Equitable Machine Learning in Healthcare: A Round Table Discussion, Center for Digital Therapeutics and University College London, 2023.
4. A Transparency- and Trust-Centric Design Approach to AI for Healthcare, AI Health Spark Seminar Series, 2023.
5. Trustworthy and Transparent AI for Clinical Decision Support, UWBioTEC Illuminating the Future of Medical Imaging Innovation Panel, 2023.
6. AI-fueled sensing and trustworthy and explainable AI, European Press Tour, 2023.
7. Towards Trustworthy and Transparent Computer-aided Diagnosis for the Eye, Conference on Artificial Intelligence and the Eye, 2023.
8. Digitizing Manufacturing with AI-Powered Visual Quality Control, AI Summit Seoul, 2022.
9. Quantitative explainability: a path towards trustworthiness and transparency in AI, Financial Industry Forum on Artificial Intelligence (FIFAI), 2022.
10. Two Leaders in AI Discuss Topical Issues, The Centre for Advancing Responsible and Ethical Artificial Intelligence (CARE-AI) Talk Series, 2022.
11. The Path Towards Trustworthy Artificial Intelligence for Radiology, Queen’s AI and Radiology Lecture series, 2022.
12. The Path to Trusted AI Solutions: From Explainability to Best Practices, Festo IO conference, 2022.
13. AI and Robotics in Healthcare, Manufacturing, and Beyond, The Potential of AI for Robotics Innovation: Distinguished event in the series of the 50th Anniversary of Canadian-German research collaboration, 2022.
14. Leveraging DarwinAI’s Deep Learning Solution to Improve Production Efficiency, ARM AI Virtual TechTalk, 2021.
15. The Road to Operational Trustworthy AI: Challenges and Opportunities, Manulife, 2021.
16. Towards Trusted AI Solutions in the Wild: From Explainability to Best Practices, Joint BDC and NRC Lunch and Learn Event, 2021.

17. AI in Times of COVID-19: the COVID-Net Open Source Initiative, Clinical Diagnostics and Research Conference 2021, 2021.
18. Ethics: AI and Data, Employment and Social Development Canada (ESDC) Data Week, 2021.
19. Towards Trusted AI: From Explainability to Best Practices, Showcasing Canadian Ethical AI for Businesses (Tokyo, Japan), 2021.
20. A Conversation on AI, Governance and Ethics, Thomson Reuters, 2021.
21. Towards Trust and Explainability for Operationalization of AI, Joint European Union Forces on AI, 2021.
22. Don't Just Manage Digital Transformation, Accelerate It Unexpected Strategies Revealed, HPE Discover 2021, 2021.
23. Trust and Transparency to AI in Medicine: The Next Frontier, AI against COVID-19: Screening X-Ray Images for COVID-19 Infections Workshop, 2021.
24. COVID-Net: Open Initiative for COVID-19 Clinical Decision Support, 2021 Canadian India Healthcare Summit, 2021.
25. Explainability: Towards a Transparency and Insight-driven Approach to AI in Medicine, AstraZeneca, 2021.
26. Grand Challenges to Operationalization of AI in the Enterprise, Accelerate AI — Collaborative Strategies Event, Vector Institute, 2021.
27. COVID-Net: Open Initiative for COVID-19 Clinical Decision Support, Teesside University, 2021.
28. COVID-Net: Open Initiative for COVID-19 Clinical Decision Support, International Conference on Learning Representations (ICLR), 2021.
29. Toward Operational Artificial Intelligence in Healthcare: Promises and Challenges, OWCV2021 Conference, April 2021.
30. Overcoming risks, building trust in Artificial Intelligence, Deloitte AI Institute, 2021.
31. COVID-Net: Open Initiative for COVID-19 Clinical Decision Support, Sunlife Analytics Academy, 2020.
32. Road to Operational AI: Advances and Challenges, UW Student Venture Fund event, 2020.
33. OSFI Tech Risk Consultation - Advanced Analytics Roundtable, Office of the Superintendent of Financial Institutions, 2020.
34. A Hitchhikers Guide to Tools, Datasets, and Best Practices for Building AI for Health Applications, IEEE SIGHT Week: Hands-on AI for Humanitarian Technology: Health Applications, 2020.
35. Fibrosis-Net: A Tailored Deep Convolutional Neural Network Design for Prediction of Pulmonary Fibrosis Progression from Chest CT Images, Boehringer Ingelheim Pharmaceutical, 2020.
36. Canadian Artificial Intelligence Ecosystem (Closing Remarks), European Big Data Value Forum Conference, 2020.
37. In-depth exploration for Lung HRCT Imaging Analysis, Boehringer Ingelheim Pharmaceutical, 2020.
38. AI in the Fight against COVID-19, Boehringer Ingelheim Pharmaceutical, 2020.
39. Artificial Intelligence as enabler of competitiveness, Digital Around the World Conference, 2020.
40. Combating COVID-19 With AI, ARM DevSummit, 2020.

41. Road to Operational AI: Advances and Challenges, Honeywell Connected, 2020.
42. Innovations and Challenges at a time of Pandemic, Centre for Bioengineering and Biotechnology, 2020.
43. Pandemics Dont Wait: How We Built COVID-Net in Under 7 Days, USGIF GEOINTegration Summit, 2020.
44. COVID-Net: Open Source Deep Learning Initiative for COVID-19 Detection and Risk Stratification From Chest Radiography, Hong Kong Baptist University Research Symposium, 2020.
45. How a Human-Machine Collaboration Approach to Deep Learning Development Streamlines MLOps, MLOps World 2020, 2020.
46. Detecting COVID Cases with Deep Learning, SigOpt Webinar Series, 2020.
47. Building COVID-Net in Under 7 Days, Ericsson, 2020.
48. Human Machine Collaborative Design and Understanding for Scalable and Trustworthy Autonomy, Lyft, 2020.
49. Generative Synthesis for Edge Deep Learning, Honeywell Tech Forum, 2020.
50. Taking a Stance on Fake News: Towards Automatic Disinformation Assessment through AI and Explainability, Twitter, 2019.
51. A Hitchhiker's Guide to Practical AI in Medicine, University of Waterloo School of Pharmacy Reunion, 2019.
52. A Hitchhiker's Guide to Usable, Scalable, Explainable, and Responsible AI, Communitech Corporate Innovation Summit, 2019.
53. Operationalizing AI: Usable, Scalable, Explainable, Dependable, and Responsible, Waterloo Engineering Alumni Reunion, 2019.
54. Towards Usable, Scalable, Explainable, Dependable, and Responsible AI, Waymo, 2019.
55. Operational AI: Usable, Scalable, Explainable, and Responsible, Honeywell, 2019.
56. Towards AI-powered Medical Imaging and AI, University of Bordeaux Delegation Colloquim, 2019.
57. Scalable and Explainable Deep Learning in Practice, Airbus, 2019.
58. A Hitchhiker's Guide to Practical Artificial Intelligence For Medicine, Waterloo MedTech 2018 Conference, Waterloo, 2018.
59. Champions of Industry, Waterloos Schulich Leaders Networking Event, 2018.
60. Driver Health Monitoring, 2018 AutoTech Symposium, 2018.
61. Promises and Challenges of Operational AI, Alumni Lecture, Waterloo, 2018.
62. Slaying the Scalability and Explainability Beasts in Deep Learning, LG, San Francisco, 2018.
63. Slaying the Scalability and Explainability Beasts in Deep Learning, O'Reilly Artificial Intelligence Conference, San Francisco, 2018.
64. Practical Deep Learning: Promises and Challenges, Inovia Capital / Obvious Venture Public Lecture, San Francisco, 2018.
65. Enabling Scalable and Explainable Deep Learning in Medicine, National University of Singapore Workshop on Medical Imaging and Robotics, 2018.
66. Evolutionary Synthesis of Deep Neural Networks, Continental Automotive, Lindau (broadcasted to Frankfurt/Budapest), 2018.
67. A Hitchhiker's Guide to Machine Learning for Practical Applications, Toyota Innovation Awards, Waterloo, 2018.

68. Slaying the Scalability and Explainability Beasts in Deep Learning, Google Developer Group Waterloo AI Meetup, Waterloo, 2018.
69. Scalability and Explainability in Deep Learning, Google Developer Group Waterloo AI Meetup, Waterloo, 2018.
70. Collaborative Innovation: Bridging the Gap Between Healthcare and Tech, Waterloo-Wellington Clinical Research and Quality Improvement Symposium, 2018.
71. Beyond Impact: UWaterloos role in the innovation ecosystem, True North Conference, 2018.
72. Tackling Scalability and Explainability Challenges for Deep Learning, Conference on Computer and Robotic Vision, 2018.
73. Innovation at Waterloo Artificial Intelligence Institute, Microsoft AI Day, Toronto, 2018.
74. Artificial Intelligence and its Future, Golden Triangle Angel Network / AngelOne / SWO Angels meeting, April 2018.
75. Artificial Intelligence at University of Waterloo, Innovate UK - Enterprise Europe Network: Canadian Embassy in London, UK, 2018.
76. Artificial Intelligence and its impact, Waterloo Central Advancement Meeting, 2018.
77. Artificial Intelligence and the Road Ahead, Velocity, April 2018.
78. Turn Your Research Into a Startup, Beyond Impact: Waterloo Innovation Summit (Toronto), March 2018.
79. Operational Artificial Intelligence for Precision Agriculture, SynBio cluster meeting, February 2018.
80. Operational Artificial Intelligence for Anywhere, Anyone, Anytime, General Motors, January 2018.
81. Operational Artificial Intelligence for Anywhere, Anyone, Anytime, Global CENTRA Talk (participants from 11 countries), December 2017.
82. Toward Operational Artificial Intelligence: Anywhere, Anyone, Anytime, Canadian Special Operation Forces Command, December 2017.
83. Enabling Operational Artificial Intelligence for Anyone, Anywhere, Anytime, Canadian Air Transport Security Authority, November 2017.
84. Operational Artificial Intelligence in Supply Chain, Loblaws, November 2017.
85. AnAcademicEntrepreneur'sJourneyBreakingintoHealthcareandtheChallengesAhead, 2017 Waterloo Region MedTech Conference, November 2017.
86. Artificial Intelligence in Engineering, OIO Japan A.I. workshop, November 2017.
87. Operational AI and the Potential for AVs, AutoTech Symposium 2017, October 2017.
88. Operational Artificial Intelligence, The 19th CSI International Symposium on Artificial Intelligence and Signal Processing (AISP), October 2017.
89. Toward Operational Artificial Intelligence: Anywhere, Anyplace, Anytime, Waterloo Reunion 2017, October 2017.
90. Toward Operational Artificial Intelligence: Anywhere, Anyplace, Anytime, Volkswagen, August 2017.
91. Artificial Intelligence-driven Data Analytics in Agriculture, Agrium, June 2017.
92. Operational Artificial Intelligence in Finance, CIBC, June 2017.
93. Toward Operational Deep Learning, Microsoft, June 2017.

94. Toward Operational Artificial Intelligence: Anywhere, Anyplace, Anytime, Dayalbagh Educational Institute (DEI) Indo-Canadian Research Colloquium, June 2017.
95. Vision-driven AI for Advanced Manufacturing, Siemens, May 2017.
96. Research Entrepreneurship: From Vision to Reality, Alibaba, April 2017.
97. Operational Artificial Intelligence in Automotive Sector, Continental, March 2017.
98. Toward Operational Artificial Intelligence: Anywhere, Anyplace, Anytime, Up Close & Personal with SYDE, University of Waterloo, March 2017.
99. Big Ideas Panel Discussion on Tech North: Building Canadas First Technology Supercluster - Canadas Opportunity To Build Toronto-Waterloo In To One of the Worlds Top Technology Superclusters, Rotman School of Management, Toronto, January 2017.
100. Operational Artificial Intelligence for Platform Intelligence, Umajin, January 2017.
101. Evolutionary Synthesis of Operational Deep Intelligence, Nvidia, November 2016.
102. Deep Learning with Darwin: Evolutionary Synthesis of Operational Deep Intelligence, Waterloo Institute for Complexity and Innovation, Waterloo, February 2017.

Others (non-refereed contributions)

1. V. Abdelzad, F. Barnard, K. Czarnecki, L D'Souza, H. Gunraj, D. Mao∗, S. Rambhatla, M. Van Sittert, Explainable AI and AI Bias in Connected and Automated Vehicles, Technical Report - Transport Canada, 2023.
2. T. Ravichandran, K. Gavahi, K. Ponnambalam, D. Kumar, A. Wong, J. Mousavi, V. Burtea, and K. Levin, Machine Learning Approach for Improved Water Pipe Leak Detection and Isolation for Sustainable Water Management. American Geophysical Union Fall Meeting, Washington, DC, December 10-14, 2018.

DATE: January 2024