DAY 1 – Tuesday, December 6th

E7 2357 + 2317 / ZOOM

Morning	**Meeting ID: 995 5910 6928. Passcode: 991326**
8:40 am - 9:00 am	*Opening Remarks:* *Alexander Wong* (Hybrid: E7 Hub & Lecture Hall)
9:00 am - 10:00 am	*Academia Keynote1:* Dr. Matthew Lungren, Chief Medical Information Officer, Nuance Communications (Online)
10:00 am - 11:00 am	*Academia Keynote2:* Dr. Zhou Zhang, Assistant Professor, University of Wisconsin-Madison (Online)
11:10 am - 12:10 pm	*Oral Presentations 1* (Hybrid: E7 Hub & Lecture Hall)
12:10 pm - 1:00 pm	*Lunch Break*
Afternoon	**Meeting ID: 945 9208 6999. Passcode: 576692**
1:00 pm - 2:00 pm	*Academia Keynote3:* Dr. Shijia Pan, Assistant Professor, University of California Merced (Online)
2:10 pm - 3:10 pm	*Oral Presentations 2* (Hybrid: E7 Hub & Lecture Hall)
3:20 pm – 4:20 pm	*Oral Presentations 3* (Hybrid: E7 Hub & Lecture Hall)

DAY 1

Please use the zoom links below to join virtually.

Zoom link before Lunch:

Topic: CVIS 2022 -- Morning Dec6
Time: Dec 6, 2022 08:30 AM Eastern Time (US and Canada)

Join Zoom Meeting
https://uwaterloo.zoom.us/j/99559106928?pwd=WGZTbzQ3RnlQMnlGYnh5ZG5FM3NqZz09

Meeting ID: 995 5910 6928. Passcode: 991326

Zoom link after Lunch:

Topic: CVIS 2022 -- Afternoon Dec6
Time: Dec 6, 2022 12:30 PM Eastern Time (US and Canada)

Join Zoom Meeting
https://uwaterloo.zoom.us/j/94592086999?pwd=RzNmOE1oMzlZcDNQWktzQWpnQ0dXZz09

Meeting ID: 945 9208 6999. Passcode: 576692

DAY 1

Keynote talk 1 9:00 am - 10:00 am

Title: Post deployment considerations for AI in Radiology

Speaker: Dr. Matthew Lungren

Chief Medical Information Officer, Nuance Communications

Keynote talk 2 10:00 am - 11:00 am

Title: Combine remote sensing and machine learning in support of digital agriculture

Speaker: Dr. Zhou Zhang

Assistant Professor, University of Wisconsin-Madison, USA

Keynote talk 3 1:00 pm - 2:00 pm

Title: Physical Knowledge-Informed Learning Adaptation for Internet-of-Things

Speaker: Dr. Shijia Pan

Assistant Professor, University of California Merced

DAY 1

Oral Presentations 1 --11:10 am - 12:10 pm

Plankton-FL: Exploration of Federated Learning for Privacy-Preserving Training of Deep Neural Networks for Phytoplankton Classification
Zhang, Daniel*; Voleti, Vikram; Deglint, Jason L; Wong, Alexander

Hierarchical sea ice classification with dual-polarized SAR imagery
Chen, Xinwei*; Scott, K Andrea; Jiang, Mingzhe; Xu, Linlin; Clausi, David A

PCBDet: An Efficient Deep Neural Network Object Detection Architecture for Automatic PCB Component Detection on the Edge
Li, Brian*; Palayew, Steven; Li, Francis; Abbasi, Saad; Nair, Saeejith; Wong, Alexander

Sea Ice Mapping from Compact Polarimetric SAR Imagery Using Contextual Information and Learned Features
Taleghanidoozdoozan, Saeid*; Xu, Linlin; Clausi, David A

Oral Presentations 2 -- 2:10 pm - 3:10 pm

COVID-Net UV: An End-to-End Spatio-Temporal Deep Neural Network Architecture for Automated Diagnosis of COVID-19 Infection from Ultrasound Videos
Azimi, Hilda*; Ebadi, Ashkan; Song, Jessy; XI, PENGCHENG; Tremblay, Stéphane; Wong, Alexander

COVID-Net Assistant: A Deep Learning-Driven Virtual Assistant for Early COVID-19 Recommendation
Shi, Pengyuan*; Wang, Yuetong; Abbasi, Saad ; Wong, Alexander

Compassionate AI in Clinical Care: Feasibility Assessment of a Rules-Based Algorithm to Support a Nurse-Led Model of Care for Prostate Cancer Survivorship
Janes, Elizabeth L*; Pfisterer, Kaylen; Pham, Quynh

A Novel Computational Thermal-Visual Imaging System for Automatic Cornea Temperature Measurement and Tracking
Zare Bidaki, Ehsan*

Oral Presentations 3 -- 3:20 pm – 4:20 pm

NRC-GAMMA: A Large Novel Open-Access Gas Meter Image Dataset
Ebadi, Ashkan*; Paul, Patrick; Auer, Sofia; Tremblay, Stéphane

Causal Discovery from Sparse Time-Series Data Using Echo State Network
Chen, Haonan*; Chang, Bo Yuan ; Naiel, Mohamed; Zelek, John

From Intention to Action: The Fair AI Toolbox
Meyer, Robbie*; Wong, Alexander

Foodverse: A Dataset of 3D Food Models for Nutritional Intake Estimation
Tai, Chi-en A*; Chen, Yuhao; Keller, Matthew; Kerrigan, Mattie; Nair, Saeejith; XI, PENGCHENG; Wong, Alexander

DAY 2 – Wednesday, December 7th

9:30 am - 10:00 am	*Registration & Coffee* (DC 1301)
10:00 am -10:15 am	*Opening Remarks and Welcome* (DC 1301)
10:20 am - 11:30 pm	*Poster Session & Coffee* (DC 1301)
11:30 pm - 12:50 pm	*Lunch* (DC 1301)
1:00 pm - 2:00 pm	*Industrial Keynote:* Gavriel State, NVIDIA (DC 1302)
2:00 pm - 2:20 pm	*Industrial presentation* ABR (DC 1302)
2:20 pm – 3:30 pm	*Industrial Showcase* (DC 1301)
3:40 pm - 4:25 pm	*Awards Ceremony & Closing Remarks* (DC 1302)

DAY 2 – Poster Session 10:30 am - 11:30 pm, DC1301

1. In-Home Activity Monitoring Using Radars
   Abedi, Hajar*; Ansariyan, Ahmad; Morita, Plinio; Wong, Alexander; Boger, Jennifer; Shaker, George
2. A Machine Learning Approach to Spatiotemporal Emission Modelling
   Zheng, Kelly L*; Fraser, Roydon; Thé, Jesse
3. HybridCom: A Clone-Aware Hybrid Neural Translation and Information Retrieval Framework for Source Code Summarization
   Liu, Xiaotian*
4. Bayesian Subpixel Mapping Neural Network for Hyperspectral images
   Fang, Yuan*; Xu, Linlin; Wang, Yuxian; Clausi, David A
5. Machine Learning Challenges of Biological Factors in Insect Image Data
   Pellegrino, Nicholas*; Gharaee, Zahra; Fieguth, Paul
6. Challenges in detection of rare close-call events from vehicle-traffic videos
   Koh, Auguste L. W.*; Park, Jinman; Fieguth, Paul
7. Improved Hockey Rink Localization via Augmentation and Temporal Frame Analysis
   Shang, Jia Cheng*; Fani, Mehrnaz; Clausi, David A; Shafiee, Mohammad Javad
8. Investigation of Unsupervised Auto-segmentation for Weak Phytoplankton Annotations
   Deglint, Jason L*
9. A Trustworthy Framework for Medical Image Analysis with Deep Learning
   Ma, Kai*; He, Siyuan; XI, PENGCHENG; Ebadi, Ashkan; Tremblay, Stéphane; Wong, Alexander
10. Vision Systems For Identifying Interlocutor Behaviour And Augmenting Human-Robot Interaction
    Barot, Pranav*; MacDonald, Ewen; Mombaur, Katja
11. Automated search for optimal convolutional neural network factorization
    Mokadem, Frank*; Wong, Alexander
12. Evaluating The Affine Grassmanian for First-Pass Histogram Place Recognition
    Bradley, Matthew*; Zelek, John
13. Investigating Use of Keypoints for Object Pose Recognition
    Zeng, E. Zhixuan*; Chen, Yuhao; Wong, Alexander
14. Development of a Vertebral Field-of-View Detector for Spine MRI Registration
    Chu, Jonathan*
15. Beluga whale detection from sliced aerial remote sensing images using object detection pipelines
    Patel, Muhammed; Chen, Xinwei*; Brubacher, Neil; Xu, Linlin; Clausi, David A
16. Continuous Optimization for Medical Image Registration of Large Displacement Datasets
    Vujovic, Teodora*
17. Foodverse: A Dataset of 3D Food Models for Nutritional Intake Estimation
    Tai, Chi-en A*; Chen, Yuhao; Keller, Matthew; Kerrigan, Mattie; Nair, Sreejith; XI, PENGCHENG; Wong, Alexander
18. COVID-Net Assistant: A Deep Learning-Driven Virtual Assistant for Early COVID-19 Recommendation
    Pengyuan Shi*; Yuetong Wang; Saad Abbasi; Alexander Wong

DAY 2

INDUSTRIAL KEYNOTE

1:00 pm – 2:00 pm
DC 1302

Speaker:
Gavriel State,
Senior Director of Simulation and AI, NVIDIA

Title:
Synthetic Data for Computer Vision and Agile Robotic Manipulation

INDUSTRIAL PRESENTATION

2:00 pm – 2:20 pm
DC 1302

Speaker:
Dr. Eric Hunsberger,
Senior Research Scientist,
Applied Brain Research (ABR)

Title:
New Algorithm and Hardware for Optimal Time Series Processing

INDUSTRIAL INNOVATION SHOWCASE

2:20 pm – 3:30 pm
DC 1301

ABR

Waterloo AI

Avidbots

Chirp

Miovision

SPORTLOGiQ