Schedule

of the

10th Annual Conference on Computer Vision and Intelligent Systems

on

December 2nd and 3rd, 2024

DAY 1 — MONDAY, DECEMBER 2, IN DC-1301 & DC-1302 (ONLINE / IN-PERSON HYBRID).

TO JOIN ONLINE VIA MICROSOFT TEAMS
`https://www.microsoft.com/en-ca/microsoft-teams/join-a-meeting`
Meeting ID: 229 141 972 504. Passcode: Z48CZ2xt.

TIME	EVENT	TITLE / AUTHOR(S)
08:30 – 08:50	Registration & Coffee	
08:50 – 09:00	Opening Remarks	***Chang Liu**, CVIS 2024 Chair, MASc.*
09:00 – 10:00	Oral Presentations	*Optimizing 3D Gaussian Splatting via Point Cloud Upsampling* by **Ramlal, Adrian***; **Hu, Yan Song**; **Zelek, John**.
		Loss Functions Robust to the Presence of Label Errors by **Pellegrino, Nicholas***; **Szczecina, David**; **Fieguth, Paul**.
		Elevating Construction Monitoring: A Comprehensive UAV-Based Data Collection System for Outdoor Construction Dynamics by **Mao, Dayou***; **Lin, Yuchen**; **Gupta, Mihir**; **Hu, Yan Song**; **Lou, Maxwell**; **Jalaei, Farzad**; **RazaviAlavi, SeyedReza**; **Ebadi, Ashkan**; **Wong, Alexander**; **Chen, Yuhao**
10:00 – 11:00	Academic Keynote	*Interactive Robot Learning from Non-Expert Human Teachers. **Prof. Yuchen Cui**, Assistant Professor, University of California, Los Angeles*
11:00 – 12:00	Oral Presentations	*LangDA: Language-guided Domain Adaptive Semantic Segmentation* by **Liu, Chang***; **Hossain, Saad**; **Rambhatla, Sirisha** ; **Wong, Alexander** .
		Generative Video Editing: From unconfident to confident by **Buzko, Kseniia***; **Chen, Yuhao**.
		Hyperbolic Neural Networks are Parameter-Efficient Robustly-Trainable Hierarchical Data Classifiers by **Pellegrino, Nicholas***; **Fieguth, Paul**.
12:00 – 13:00	Lunch	
12:30 – 12:45	Industry Lightning Talk	*Consolidate on-call and incident response under one roof using LLM. **Weihan Li**. Rootly.*
13:00 – 14:00	Academic Keynote	*3D Computer Vision and its Evolution from Depth Sensors to Novel View Synthesis. **Prof. Andrea Tagliasacchi**, Associate Professor, Simon Fraser University, Staff Research Scientist at Google DeepMind*
14:00 – 14:15	Industry Lightning Talk	*TritonVerify.*
14:15 – 14:30	Industry Lightning Talk	*Sixty Degree Capital.*
14:30 – 16:30	Poster Session & Industrial Showcase	

*Indicates the first author of the paper.

DAY 2 — TUESDAY, DECEMBER 3, IN DC-1301 & DC-1302 (ONLINE / IN-PERSON HYBRID).

TO JOIN ONLINE VIA MICROSOFT TEAMS
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Meeting ID: 229 141 972 504. Passcode: Z48CZ2xt.

TIME	EVENT	TITLE / AUTHOR(S)
09:30 – 09:45	Registration & Coffee	
09:45 – 10:00	Opening Remarks & Welcome	**Chang Liu**, CVIS 2024 Chair, MASc.
10:00 – 11:00	Oral Presentations	*Cancer-Net PCa-Seg: Benchmarking Deep Learning Models for Prostate Cancer Segmentation Using Synthetic Correlated Diffusion Imaging* by **Dewbury, Jarett**; **Tai, Chi-en***; **Wong, Alexander**.
		Decoding Diffusion: A Scalable Framework for Unsupervised Analysis of Latent Space Biases and Representations Using Natural Language Prompts by **Zeng, E. Zhixuan***; **Chen, Yuhao**; **Wong, Alexander**.
		Comparative Analysis of Multi-Channel Feature Extraction Using a Modified K-means and PCA for PARS-to-H&E Image Translation by **Boktor, Marian***; **Fieguth, Paul**.
11:00 – 12:00	Academic Keynote	*Winter Is Coming: Extending Self-Driving Perception to Adverse Weather,* ***Prof. Steven Waslander****, Professor, University of Toronto. Director, Toronto Robotics and AI Laboratory*
12:00 – 13:00	Lunch	
13:00 – 14:00	Academic Keynote	*Digital Pathology Meets Spatial Omics: Emerging Problems in Data Integration, Solutions, and New Opportunities.* ***Prof. Pinaki Sarder****, Associate Professor, University of Florida*
14:00 – 15:00	Oral Presentations	*Cancer-Net SCa-Synth: An Open Access Synthetically Generated 2D Skin Lesion Dataset for Skin Cancer Classification* by **Tai, Chi-en***; **Ding, Oustan**; **Wong, Alexander**.
		NFLNet: A hard hitting evalutation of deep learning approaches to tackle prediction by **McGuigan, Kiernan***; **de Loë, Lily**.
		Perceiver Model Ensemble for Solar Power Forecasting: A Winning Solution for ClimateHack.AI 2023-2024 by **Yu, Trevor***; **Demars, Carter**; **Khan, Areel**.
15:00 – 15:30	Awards Ceremony & Closing Remarks	

*Indicates the first author of the paper.

DAY 1 — POSTER SESSIONS, IN DC-1301 (IN-PERSON ONLY), 14:30 – 16:30.

1. *Enhancing Parkinson's Disease Diagnosis through Synthetic Image Augmentation and Deep Learning Model Evaluation* by **Rumman, Mosarrat*; Davoudi, Heidar; Ebrahimi, Mehran.**

2. *Parametrized Dataset Generator for the Classification of Ice Hockey Power Plays* by **Nsiempba , Ken*; Zelek, John; Clausi, David.**

3. *Enhancing AI-powered Tuberculosis Screening: Preliminary Insights into Adversarial Robustness* by **Lee, Yin Hau*; Wong, Alexander ; Ebadi, Ashkan.**

4. *Cancer-Net PCa-Seg: Benchmarking Deep Learning Models for Prostate Cancer Segmentation Using Synthetic Correlated Diffusion Imaging* by **Dewbury, Jarett; Tai, Chi-en*; Wong, Alexander.**

5. *Cancer-Net SCa-Synth: An Open Access Synthetically Generated 2D Skin Lesion Dataset for Skin Cancer Classification* by **Tai, Chi-en*; Ding, Oustan; Wong, Alexander.**

6. *Aligning Feature Distributions in VICReg Using Maximum Mean Discrepancy for Enhanced Manifold Awareness in Self-Supervised Representation Learning* by **Sepanj, Hadi*; Fieguth, Paul.**

7. *i-Grad-CAM: Transformation Invariant Grad-CAM* by **Khawaja, Murad ul Hassan*; Roy, Emon; Davoudi, Heidar; Ebrahimi, Mehran.**

8. *Alice or Malice: A.I.'s Dance with Humanity* by **Sepanj, Hadi*; Fieguth, Paul.**

9. *Challenges and Approaches to 3D Reconstruction of Food for Dietary Behaviours Monitoring* by **Lee, Yin Hau*; Chen, Yuhao.**

10. *Decoding Diffusion: A Scalable Framework for Unsupervised Analysis of Latent Space Biases and Representations Using Natural Language Prompts* by **Zeng, E. Zhixuan*; Chen, Yuhao; Wong, Alexander.**

11. *DIPLOMAT* by **Robinson, Isaac; Glidden, George ; Panchal, Neekesh*; Insel, Nathan; Wheeler, Travis.**

12. *Loss Functions Robust to the Presence of Label Errors* by **Pellegrino, Nicholas*; Szczecina, David; Fieguth, Paul.**

13. *Evaluating the Impact of Stereo Overlap on Calibration parameters in Camera and Projector Systems* by **Ayee Goundar Venkatesan, Pranav Kumar*; Moradi, Saed; Fieguth, Paul; Lamm, Mark.**

14. *Elevating Construction Monitoring: A Comprehensive UAV-Based Data Collection System for Outdoor Construction Dynamics* by **Mao, Dayou*; Lin, Yuchen; Gupta, Mihir; Hu, Yan Song; Lou, Maxwell; Jalaei, Farzad; RazaviAlavi, SeyedReza; Ebadi, Ashkan; Wong, Alexander ; Chen, Yuhao.**

15. *Dataset for Real-World Human Action Detection Using FMCW mmWave Radar* by **Siva, Parthipan*; Jayabahu, Dylan.**

16. *AI-Powered Pill Recognition: A Step Towards Smarter Medication Management* by **Azimi, Hilda*; Mowaswes, Walid; Chen, Yuhao; Ebadi, Ashkan.**

17. *A success metric for individual player encounters in Ice Hockey videos* by **Nsiempba , Ken*; Chen, Yuhao; Clausi, David; Zelek, John; Jiang, William.**

18. *Hyperbolic Neural Networks are Parameter-Efficient Robustly-Trainable Hierarchical Data Classifiers* by **Pellegrino, Nicholas*; Fieguth, Paul.**

19. *Optimizing 3D Gaussian Splatting via Point Cloud Upsampling* by **Ramlal, Adrian*; Hu, Yan Song; Zelek, John.**

20. *Comparative Analysis of Multi-Channel Feature Extraction Using a Modified K-means and PCA for PARS-to-H&E Image Translation* by **Boktor, Marian*; Fieguth, Paul.**

21. *FoodTrack: Estimating Handheld Food Portions with Egocentric Video* by **Wang, Ervin*; Chen, Yuhao.**

22. *LangDA: Language-guided Domain Adaptive Semantic Segmentation* by **Liu, Chang*; Hossain, Saad; Rambhatla, Sirisha; Wong, Alexander.**

23. *Generative Video Editing: From unconfident to confident* by **Buzko, Kseniia*.**

24. *Improving Speech Emotion Recognition: A Semi-Supervised Approach for Fine-Grained Analysis* by **Goyal, Kshitij*; Sharda, Ishwak; Shabani, Amir.**

25. *6D Pose Estimation on Spoons and Hands* by **Chen, Yuhao*; Yang, Fan; Tan, Kevin.**

26. *Leveraging Player Tracking for Event Detection in Ice Hockey* by **Nsiempba , Ken*; Nazemi, Amir; Clausi, David; Zelek, John.**

27. *NFLNet: A hard hitting evalutation of deep learning approaches to tackle prediction* by **McGuigan, Kiernan*; de Loë, Lily.**

28. *MKNO: Multi-Kernel Neural Operator* by **McGuigan, Kiernan*.**

29. *Using Mixture of Experts to Fine-Tune Robotic Video Transformers* by **Ali, Muhammad*; Wong, Alexander; Altaf, Zain; Trandinh, Winnie.**

30. *NutritionVerse: An AI-Driven Dietary Monitoring Tool for Aging Populations* by **Stoica, Valerie*; Chen, Yuhao.**

31. *A Text-Centric Approach to ASCII Art using Graph Neural Networks* by **thasin, Maisha*.**

32. *FoodVideoQA: A Novel Framework for Dietary Monitoring* by **Shah, Krish*; Viswanath, Siddharth; Chen, Yuhao; XI, PENGCHENG.**

33. *Passive Video liveness detection using Vision Transformer* by **Ayee Goundar Venkatesan, Pranav Kumar*; Krishnamoorthy Murali, Harish.**

34. *Stereo-Visual Odometry using Deep Learning* by **Ayee Goundar Venkatesan, Pranav Kumar*; Krishnamoorthy Murali, Harish.**

35. *SynPrivacy: An Open Framework and Fair Metric for Evaluating Synthetic Data Privacy Risks* by **Hu,**

Bing*.

36. *Perceiver Model Ensemble for Solar Power Forecasting: A Winning Solution for ClimateHack.AI 2023-2024* by **Yu, Trevor*; Demars, Carter; Khan, Areel.**

37. *Image Generation at Different Detail Level: Scaling Skip Connections in ViT-based Diffusion Models* by **Liu, Chang*; Habashy, Karim; Pan, Yuchen; Rambhatla, Sirisha; Wong, Alexander.**

38. *Transformer-Based CT Auto-Segmentation of Lung Metastases – A Tumor-Board Application* by **Ramezani, Hooman*.**