

## Publications

1. J. Hrzich, C. P. Bidinosti, C. J. Henry, M. A. Beck "Low-Cost Photogrammetry Rig for 3D Plant Phenotyping", 7th Annual P2IRC Symposium, Saskatoon, Saskatchewan, Canada, October 25th, Conference Poster, 2022
2. H. Ben Abdallah, C. J. Henry, S. Ramanna "1-Dimensional polynomial neural networks for audio signal related problems", Knowledge-Based-Systems, [pdf](#), 240:108174, 2022
3. O. Hamila, C. J. Henry, M. A. Henriquez, C. P. Bidinosti "Automated Fusarium head blight detection and total number of spikelets estimation in multispectral point clouds of wheat using 3D convolution neural networks", Canadian Phytopathological Society Annual Meeting, [pdf](#), July 4-8th, Conference Presentation Abstract, 2022.
4. O. Hamila, C. J. Henry, M. A. Henriquez, C. P. Bidinosti "Fusarium head blight detection and severity estimation in wheat using automated 3D convolutional neural networks", 2nd International Wheat Congress, Beijing, China, September 11-15th, Conference Poster, 2022
5. O. Hamila, S. Ramanna, C. J. Henry, S. Kiranyaz, R. Hamila, R. Mazhar, T. Hamid "Fully automated 2D and 3D convolutional neural networks pipeline for video segmentation and myocardial infarction detection in echocardiography" Engineering Tools and Applications in Medical Imaging, [pdf](#), 2022
6. S. Mostafa, D. Mondal, M. A. Beck, C. P. Bidinosti, C. J. Henry, I. Stavnes, "Leveraging Guided Backpropagation to Select Convolutional Neural Networks for Plant Classification", Frontiers in Artificial Intelligence, [pdf](#), 2022
7. H. Ben Abdallah, C. J. Henry, S. Ramanna "Polynomial degree reduction in the L2-norm on a symmetric interval for the canonical basis", Applied Mathematics, [pdf](#), 12:100185, 2021
8. S. Mostafa, M. A. Beck, C. P. Bidinosti, C. J. Henry, I. Stavness "Visualizing Feature Maps for Model Selection in Convolutional Neural Networks", 7th Workshop on Computer Vision in Plant Phenotyping and Agriculture, [pdf](#), 2021
9. M. A. Beck, C.-Y. Liu, C. P. Bidinosti, C. J. Henry, C. M. Godee, M. Ajman "An extensive lab- and field-image dataset of crops and weeds for computer vision tasks in agriculture", Cyverse Dataset, [pdf](#), 2021
10. M. A. Beck, C.-Y. Liu, C. P. Bidinosti, C. J. Henry, C. M. Godee, M. Ajmani "An extensive lab- and field-image dataset of crops and weeds for computer vision tasks in agriculture", 7th Workshop on Computer Vision in Plant Phenotyping and Agriculture, [pdf](#), 2021
11. M. A. Beck, C.-Y. Liu, C. P. Bidinosti, C. J. Henry, C. M. Godee, M. Ajmani "Presenting an extensive lab- and field-image dataset of crops and weeds for computer vision tasks in agriculture", arXiv, [pdf](#), 2021
12. M. A. Beck, C.-Y. Liu, C. P. Bidinosti, C. J. Henry, C. M. Godee, M. Ajmani "An embedded system for the automated generation of labeled plant images to enable machine learning applications in agriculture", [pdf](#), 2020
13. M. A. Beck, C.-Y. Liu, C. P. Bidinosti, C. J. Henry, C. M. Godee, M. Ajmani "Weed seedling images of species common to Manitoba, Canada", Dryad Dataset, [link](#), 2020
14. M. A. Beck "EAGL-I: Embedded Autonomous Generator of Labeled Images", Phenome2020, [pdf](#), Presentation, 2020