2022 Joint EOL/CISL Seminar

**Neural Network Processing of Holographic Images**

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**DATE:** April 19, 2022  
**TIME:** 3:30-4:30 pm MST  
**WEBCAST:** operations.ucar.edu/live-eol  
**QUESTIONS:** Participants may ask questions during the seminar via Slido

**ABSTRACT**

John will present results from a promising new machine-learning based paradigm, HolodecML, for processing field-acquired cloud droplet holograms. Holographic images are used as input to a neural network model that predicts masks around in-focus particles, from which the position, diameter, and shape are computed. The approach is fast, scalable, and takes advantage of GPUs and other heterogeneous computing platforms. It combines applications of transfer and active learning by using synthetic data for training, and a small set of hand-labeled data for refinement and validation. Artificial noise and transformations applied during synthetic training enables optimized models for real-world situations.

EOL Seminar Series Coordinator: Jacquie Witte jwitte@ucar.edu

This webcast will be recorded and uploaded to the NCAR Earth Observing Laboratory YouTube Channel