



2020 HiPerGator Symposium  
Tuesday, October 27, 2020  
9:00 a.m. – 2:00 p.m.  
Virtual Event

Presented by:



This year marks the seventh anniversary of HiPerGator, the University of Florida's supercomputer. With the July 21, 2020 announcement of UF's partnership with NVIDIA to establish an AI University, the 2020 HiPerGator Symposium focuses on research underway using HiPerGator with AI and machine learning. The symposium features a keynote from a renowned PI, eleven 10-minute lightning presentations in the morning, and virtual poster sessions in the afternoon.

# Symposium Agenda

**9:00AM** Welcome, Introduction of Keynote Speaker

*Erik Deumens, Ph.D.*  
*Director - UFIT Research Computing*

**9:15AM** Keynote: Augmented Decision Making - How to Implement Machine Learning into Research and Clinical Care

*Azra Bihorac, MD, MS, FCCM, FASN,*  
*R. Glenn Davis Professor of Medicine, Surgery and Anesthesiology*

**9:55AM** Lightning Round Presentations

10:00 a.m. Developing a HazardNet Malicious Behavior Dataset  
*Read Hayes, Research Scientist, Director of Loss Prevention Research Council*

10:10 a.m. Are Avocados Toast? Decision Support for Laurel Wilt Disease Management at a Regional Level  
*Berea Etherton, College of Agricultural and Life Sciences*

10:20 a.m. HiPerGator for Hardware Security Assessment  
*Rabin Acharya, Herbert Wertheim College of Engineering*

10:30 a.m. Topological Data Analysis of Actin Networks  
*Nikola Milicevic, College of Liberal Arts and Sciences*

10:40 a.m. Enhancing Fruit Flavor with an AI Connoisseur  
*Vincent Colantonio, College of Agricultural and Life Sciences*

10:50 a.m. AIM by ANI: The Development of an Atoms-in-Molecules Partition through Machine Learning  
*Kate Davis, College of Liberal Arts and Sciences*

**11:00AM** 10 Minute Break

11:10 a.m. Generalizing Residual Learning and Ensemble Methods Using Neural Networks: A Case Study of Multiple Protein Sequence Alignment  
*Bryan Kolaczowski, Ph.D., Associate Professor, College of Agricultural and Life Sciences*

11:20 a.m. Mirkwood: SED Fitting for the Twenty First Century  
*Sankalp Gilda, College of Liberal Arts and Sciences*

11:30 a.m. Exploring Machine Learning and Multiscale Atmospheric Simulation to Elucidate the Role of Geomorphic Complexity in Enhancing Damage During Extreme Wind Events  
*Jorge Santiago-Hernandez, Herbert Wertheim College of Engineering*

11:40 a.m. Combining Formal Systems for Automated Reasoning  
*John Hester, College of Liberal Arts and Sciences*

11:50 a.m. Refinement of Protein Structures Using Machine Learning  
*Kavindri Ranasinghe, College of Liberal Arts and Sciences*

**12:00PM** 10-Minute Break

**12:10PM** Virtual Poster Session

Virome Network Analysis for Complex Data  
*Ricardo Alcalá-Briseño, College of Agricultural and Life Sciences*

AIM by ANI: The Development of an Atoms-in-Molecules Partition through Machine Learning  
*Kate Davis, College of Liberal Arts and Sciences*

Deep Learning Approach on IMU Based Irregular Surface Gait Alteration Recognition  
*Song Li, Herbert Wertheim College of Engineering*

Topological Data Analysis of Actin Networks  
*Nikola Milicevic, College of Liberal Arts and Sciences*

Refinement of Protein Structures Using Machine Learning  
*Kavindri Ranasinghe, College of Liberal Arts and Sciences*

MultiML: A Method to Predict Optimal Sample Size in Multi-Omics Data Analyses Using Machine Learning Strategies  
*Leandro Balzano-Nogueira, Ph.D., College of Agricultural and Life Sciences*

Interfacing AMBER and TorchANI, A Deep Learning Model for Molecular Dynamics of Biomolecules  
*Ignacio Pickering, College of Liberal Arts and Sciences*

Are Avocados Toast? Decision Support for Laurel Wilt Disease Management at a Regional Level  
*Berea Etherton, College of Agricultural and Life Sciences*

**2:00PM** 2020 HiPerGator Symposium Concludes