William Hahn, Florida Atlantic University

Title and Abstract:

From Big Data to Big Meaning: Deep Learning Neural Networks on GPU

How big is big data? Every day 300 million photos are uploaded to Facebook, in the same day, 400 thousand hours of video are uploaded to Youtube. Medical knowledge is now doubling every three years and by the 2020’s it is expected to double about every two months. Deep learning has emerged at the forefront nearly every major computational breakthrough in the last 5 years. Deep learning networks allow for the processing of photos, videos, and medical records at high speed and with great accuracy, turning big data into big results. Here we discuss the mathematical foundations behind deep learning as well as the hardware that makes these data driven applications possible. We will also discuss security and privacy concerns related to big data and machine learning in healthcare.