

# MIND, TECHNOLOGY, AND SOCIETY

## *Seminar Series*

UC MERCED, SPRING 2017

Monday, February 27, 2017 — 3:00 PM - 4:30 PM — KL 232

## FILIP PIĘKNIEWSKI, PH.D.

*Koh Young Research America*

### “THE PREDICTIVE VISION MODEL - A DIFFERENT WAY OF DOING DEEP LEARNING”



Deep learning has allowed substantial improvements in several application domains, including image categorization and speech recognition. However, the problem of perception is complex and multifaceted. Primarily feed-forward deep learning systems, though impressive in certain domains, have very limited “understanding” of the signals they process. This talk will describe a new effort to build a deep, trainable, machine learning system, that can grasp the spatio-temporal patterns observed in reality and allow for the better representation of the underlying physical causes of stimuli. The system, called the Predictive Vision Model, uses online prediction at multiple scales as a self-supervised training paradigm, and it has already achieved state of the art results in online visual object tracking.

Dr. Filip Piękniewski received a masters degree in Computer Science from Nicolaus Copernicus University in Torun, Poland and a Ph.D in Computer Science from Warsaw University. Dr. Piękniewski has investigated dynamical systems closely related to recurrent neural networks at critical phase transitions, a topic related to self-organized critical systems. For over 6 years, Dr. Piękniewski worked at Brain Corporation in San Diego where he lead the \$1M DARPA project entitled "From machine learning to new cortical architectures" aimed at exploring large scale unsupervised predictive learning architectures applied to online object tracking.

Please contact David Noelle ([dnoelle@ucmerced.edu](mailto:dnoelle@ucmerced.edu)) for more information.