



**AUTONOMOUS  
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**TECHLAV**

<b>TOPIC</b>	<b>Partially Connected ANN with Evolvable Topology (PANNET)</b>
<b>ORGANIZERS</b>	Student Leadership Council and Faculty of ACIT Institute and TECHLAV Center
<b>AREA</b>	Electrical Engineering
<b>SPEAKER</b>	Mina Moradi
<b>DATE</b>	Friday September 23, 2016
<b>TIME</b>	3:00 – 4:00 P.M. (EST)
<b>VENUE</b>	Fort IRC 410, North Carolina A&T State University, UTSA and SIPI will be joining through video-conferencing
<b>FEES</b>	No Charge

## SYNOPSIS

In the first part of my talk, I will present the newly developed Partially Connected ANN with Evolvable Topology (PANNET). PANNET is a non-fully connected Recurrent Neural Network (RNN) which is developed for time series prediction. Through the evolutionary process of a customized Genetic Algorithm, the topology and connection weights of the network are trained and dynamic of the system is estimated at the end of training. Unlike conventional networks, the proposed model does not need a set of predefined lagged inputs to be fed into the network. Moreover, efficient internal states to memorize and generalize the dynamic of the system are determined through the evolutionary process. To show the efficiency of the approach, I will discuss a couple of applications of the PANNET. In continuance of my talk, I will review a new application of RNN for localization and tracking problems which is an important topic in many industries.

## ABOUT THE SPEAKER



Mina Moradi is a PhD student at North Carolina A&T State University. She is currently a graduate research assistant at the ACIT Institute, working on machine learning, real-life time series analysis and prediction. She received her Bachelor and Master degrees in Electrical Engineering from Imam Khomeini International University, and Isfahan University of Technology, Iran in 2008 and 2011 respectively.