WENTING (WENDY) LI

Major: Electrical, Computer, System & Engineering, **Website:** https://wendy0601.github.io/
Add: 2408 21st Street, Troy, NY 12180 **Tel:** (518)-268-0401 **Email:** liw14@rpi.edu

EDUCATION

Rensselaer Polytechnic Institute (**RPI**), Troy, NY — *Aug. 2015 to Dec. 2019*
PhD Candidate in Electrical, Computer, System & Engineering — GPA: 3.83/4
Advisor: Meng Wang

Rensselaer Polytechnic Institute (**RPI**), Troy, NY — *Aug. 2015 to 2017*
Master Degree in Applied Mathematics — GPA: 3.96/4
Advisor: John E. Mitchell

Shanghai Jiao Tong University (**SJTU**), Shanghai, China — *July 2013 to May 2015*
Research Assistant in Electrical Engineering
Advisor: Xu Cai

Harbin Institute of Technology (**HIT**), Harbin, China — *Sept. 2009 to July 2013*
B.Sc. in Electrical Engineering — Rank: 3/245 GPA: 91.4/100

COMPUTER SKILLS

Languages: Matlab, Python, R, C/C++
Software: **Tensorflow, Scikit-learn, Pandas, Keras,** AMPL, SQL, Minitab, Docker, Git, PSS/E, Simulink, PSCAD, Django, Flask, HTML, Latex, Microsoft Office

EMPLOYMENT EXPERIENCE

Summer Intern (Deep Learning) Online Fault Location through Deep Learning Classifier
Los Alamos National Laboratory (LANL), NM — *May 2018 - Aug. 2018*

- Propose a real-time approach to locate faults in a network with high accuracy even only 7% of network nodes are observed, while other methods require 30% of nodes to be observed.
- Develop a node selection algorithm to determine the measured nodes, increasing 10% location accuracy.

PROJECT EXPERIENCE

Project Leader Application of Bayesian Network (Probablistic Graph Model)
RPI, troy, NY — *Sep., 2018 to Dec., 2018*

- Estimate inference through Gibbs Sampling & mean field methods for Diagnosing Congenital disease.
- Non-intrusively load separation via a Factorial Hidden Markov Model (FHMM).
- Employ Bayesian Network (BN) to estimate posterior inference for classification.
- Apply a pairwise label-observation Gaussian Markov Random Field method (MRF) to image segmentation

Project Leader & Dr. Christoph Lackner Power Analysis and Transmission via IBM Cloud
RPI and New York Power Authority — *June 2017 to Oct. 2017*

- Embed our classification algorithms into Cloud using IBM Waston API & SQL: https://python-demo-dittographic-nyctophobia.mybluemix.net/results.

Project Leader Application of Deep Learning Models
RPI, Troy, NY — *Sept. 2016 to Dec. 2016*

- Identify twitter sentiment by a long-short term memory (LSTM) and cluster parameters with t-distributed stochastic neighbor embedding (t-SNE).
- Design a four-path CNN to estimate the position of eye gazing, reaching the top 10 accuracy in class.

RESEARCH EXPERIENCE

Research Assistant Non-intrusive Load Separation via Sparse Dictionary Learning
RPI, Troy, NY *Sep 2018 to Present*

· Given partial labels, classify aggregated data via a dictionary learning based approach with sparsity;
· Separate aggregated data via sparse coding without any individual historical data.

Research Assistant Identify Overlapping Successive Events through a Shallow CNN
RPI, Troy, NY *July 2017 to Sep. 2018*

· The defined *dominant feature* reduces 8 times of total parameters of the proposed CNN;
· Propose the prediction-subtraction process to reduce overlapping effects.

Research Assistant Online Event Identification from High-dimensional Data
RPI, Troy, NY *Aug. 2015 to May 2017*

· Reduce time periods from 5-30 seconds to 1 second by characterizing events with dominant subspace;
· Establish a dictionary of 71 atoms while the traditional dictionary is of thousands of atoms.

Research Assistant Modeling and Control Renewable Energy Resources
Alstom and SJTU, Shanghai, China *July 2013 to May 2015*

· Model and simulate wind renewable energy resources to go through faults.

JOURNAL PUBLICATIONS

Wenting Li, Wang M, "Identifying Successive Events through a Shallow Convolutional Neural Network (CNN)," 2018, IEEE Power System Transaction.

Wenting Li, Deepjyoti Deka, Michael Chertkov, Wang M, "Real-time Faulted Line Localization and PMU Placement in Power Systems through Convolutional Neural Networks," 2018, IEEE Power System Transaction.

Wenting Li, Wang M, Chow J H., "Real-time Event Identification through Low-dimensional Subspace Characterization of High-dimensional Synchrophasor Data," 2018, IEEE Power System Transaction.

PRESENTATIONS & POSTER

Identifying Overlapping Successive Events Using a Shallow CNN Poster

· 2019 Future Energy Systems Technology Conference, Troy, NY, USA, April 10, 2019

Real-time Fault Location Through Deep Learning Oral & Poster

· 2018 LANL **30 minutes** Talks, Los Alamos, NM, USA, Aug. 9, 2018

Real-time Event Identification of High-dimensional Data Oral & Poster

· 2017 CURENT Industry Conference, the University of Tennessee, Knoxville, USA, Nov. 14, 2017

AWARDS

3-Minute Thesis Talk Final Round, 2019
Founders Award of Excellence, 2018 (top 1%)
North America Finalist of IBM Watson Build Challenge, 2017
Power Energy Society Traveling Award, 2016
The excellent new Ph.D. Student Scholarship, 2013 (Top 1%)
The excellent paper of China power electronics annual meeting, 2013
Honorable Mention Award of Mathematical Modeling, 2012
Peoples Scholarship (Top 3%), National Encouragement Scholarship (Top 2%), 2012