WENTING (WENDY) LI

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RESEARCH INTERESTS

Deep/machine learning, Feature Extraction and representation, High-dimensional Data Analysis, Bayesian learning and inference, Identification, Location

EDUCATION

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

TECHNICAL STRENGTHS

Python, Matlab, R, C, Tensorflow, Jupyter Notebook, Latex, Scikit-learn, Microsoft Office, Django, Flask, AMPL , mechine/deep learing, algorithms, statistics, optimization, graph model
Language: Chinese (native) and English

EMPLOYMENT EXPERIENCE

Real-time Fault Location through Convolutional Neural Network   May 2018 - Aug 2018
Los Alamos National Laboratory (LANL), NM   *Summer Intern*

- Extract features with physical interpretations and locates faults through a four-layer CNN;
- Compare the performances of the designed CNN with multi-class SVM and Neural Networks when the system is partially observed;
- Propose an algorithm of bus selection and identify the neighborhood of faults under low observability.

RESEARCH EXPERIENCE

Identify Overlapping Successive Events through CNN   July. 2017 to Present
Rensselaer Polytechnic Institute (RPI), Troy, NY   *Research Assistant*

- Reduce the interactions between successive events through the proposed prediction-subtraction process;
- Extract dominant features after the process and classify successive events with a two-layer CNN.

Online Event Identification from high-dimensional Data   July, 2015 to May, 2017
Rensselaer Polytechnic Institute (RPI) , Troy, NY   *Research Assistant*

- Characterize different types of events by low-dimensional subspaces and build a subspace dictionary;
- Identify the types of events according to the minimum subspace angle with the dictionary atoms.

RELEVANT COURSES

Core Courses	Other Courses
Deep learning & Machine Learning	Compressed Sensing & Its applications
Probability Graph Model & Nonlinear Optimization	Stochastic Process & Functional Analysis
Algorithm Design & Approximation Algorithm	Statistical Signal Processing

MAIN PUBLICATIONS

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

Li W, Deepjyoti Deka, Michael Chertkov, Wang M, Real-time Fault Location with Convolutional Neural Network (CNN), 2018, submitted to IEEE Power System Transaction.

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

Li W, Wang M, Chow J H., Fast event identification through subspace characterization of PMU data in power systems, In Proc. IEEE Power and Energy Society (PES) General Meeting, 2017, IEEE.

Li W, Lv J, et al. Improved AC fault ride through control strategy for MTDC system with offshore wind farms. Power System Technology, 2014 International Conference on. IEEE, 2014: 2409-2419.

PROJECT EXPERIENCE

Approximate Bayesian Inference for Diagnosing Congenital disease   Oct 2018
RPI, troy, NY   *Class Project*

· Approximately estimate the posterior inference through Gibbs Sampling and mean field methods.

Cognitive Web Application based on IBM Watson API   June 2017 to Oct. 2017
RPI and New York Power Authority   *Project Leader*

· Embed our identification algorithms to the power system control system to improve human-computer interactive interface on cloud: https://python-demo-dittographic-nyctophobia.mybluemix.net/results.

Twitter Sentiment Analysis with Recurrent Neural Networks   Sept. 2016 to Oct. 2016
RPI, Troy, NY   *Class Project*

· Identify twitter sentiment by a long-short term memory classifier and visualize the learned parameters

Mobile Eye Gaze Estimation with CNN   Oct. 2016 to Dec. 2016
RPI, Troy, NY   *Class Project*

· Design a four-pathway CNN to estimate the position of eye gazing and reach the top 10 accuracy of all

PRESENTATIONS & POSTER

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

Fast Event Identification through Subspace Characterization of PMU Data   Oral

· 2017 PES General Meeting, Chicago, IL, USA, July 16, 2017

AWARDS

Founders Award of Excellence, 2018 (top 1%)
North America Finalist of IBM Watson Build Challenge, 2017
The excellent new PhD Student Scholarship, 2013 (Top 1%)
Peoples Scholarship (Top 3%) & National Encouragement Scholarship, 2012 (Top 2%)
Honorable Mention Award of Mathematical Modeling, 2012