Bendong Tan

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EDUCATION

- **Wuhan University (M.S. in Electrical Engineering)**　　　　　　　　Sep 2017 – Jul 2020
    - **Weighted of Average Score:** 89.32/100
    - **Ranking:** 9/189 **(top 5%)**
    - **Area of Study:** Applications of Artificial Intelligence in Power System Stability and Control
    - **Supervisor:** Prof.Yuanzhang Sun & Prof.Jun Yang

- **Wuhan University (B.E. in Electrical Engineering)**　　　　　　　　Sep 2013 – Jul 2017
    - **Grade Point Average (GPA):** 3.60/4.00
    - **Ranking:** 22/379 **(top 6%)**
    - **Thesis:** Transient Stability Assessment of Power System Based on Data Mining Technology
    - **Supervisor:** Prof.Jun Yang

PUBLICATIONS

- **Published Papers**
    - **Bendong Tan**, Jun Yang, et al. "**A Deep Imbalanced Learning Framework for Transient Stability Assessment of Power System.**" in ***IEEE Access***, vol.7, pp.81759-81769, 2019. **(SCI)**
    - **Bendong Tan**, Jun Yang, Qiupin Lai, et al. "**Data Augmentation Method for Power System Transient Stability Assessment Based on Improved Conditional Generative Adversarial Network.**", in ***Automation of Electric Power Systems***, vol.43, no.1, pp.149-157, 2019. **(in Chinese, EI)**
    - Ting Zhou, Jun Yang, Qiangming Zhou, **Bendong Tan**, et al. "**Power System Transient Stability Assessment Based on Modified LightGBM.**", in ***Power System Technology***, to be published. DOI: 10.13335/j.1000-3673.pst.2019 .0085. **(in Chinese, EI)**
    - **Bendong Tan**, Jun Yang, Pan X, et al. "**Representational Learning Approach for Power System Transient Stability Assessment Based on Convolutional Neural Network.**" in ***The 6th Renewable Power Generation Conference***, Sep. 2017.

- **Unpublished Papers**
    - **Bendong Tan**, Jun Yang, et al. "**Spatial-temporal Adaptive Transient Stability Assessment for Power System under Missing Data.**", in ***International Journal of Electrical Power & Energy Systems***. **(second round)**
    - **Bendong Tan**, Jun Yang, Ting Zhou, et al. " **Novel Temporal Feature Selection for Time-adaptive Transient Stability Assessment.**", in ***2019 IEEE PES Innovative Smart Grid Technologies Europe***. **(accepted)**

SKILLS

- **Power System Softwares** – Master the basic usage of **PST, Digsilent, PSS/E, PSASP, PSD-BPA**, and develop batch simulation scripts of transient stability for these softwares

- **Technologies**
    - **Machine Learning:** Tensorflow,Keras,Scikit-learn,Pandas.
    - **Optimization:** Yalmip with Gurobi and Cplex.

- **Programming Languages** – Python, C and Matlab

Projects

- **Intelligent fault analysis system for the Hubei Power Grid (*Contributor*)** Jul 2016 – Jul 2017
  Introduction: this project was funded by the State Grid Hubei Electric Corporation, whose aim was to develop a desicion system to provide service of fault diagnosis and security analysis for the Hubei Power Grid.

  - A fault location algorithm was designed based on complex information in power system
  - The interface of algorithms was developed for the intelligent fault analysis system

- **Research on the transient stability of the Hubei Power Grid (*Maintainer*)** Jun 2017 – Jun 2018
  Introduction: this project was funded by the State Grid Hubei Electric Corporation, whose aim was to utilize data mining technology to assess transient stability of the Hubei Power Grid.

  - A program was developed to implement automatic batch time domain simulation of PSASP for the Hubei Power Grid
  - The feature selection method was studied for post-fault monitoring data of power system
  - Transient stability association rules were analyzed to improve interpretability for security of the Hubei Power Grid

- **Sakura Science Exchange Program of Sophia University in Japan** Aug 2018
  Introduction: this program was funded by the Japan Science and Technology Agency, contents of the program included: simulation of automotive engine control strategy, machine learning lectures and visiting to Japanese high-tech enterprises.

  - Based on measured data, neural network was used to identify automobile engine parameters, and the air-fuel ratio control model was constructed.

- **Research on the integrated energy system (*Maintainer*)** Jan 2019 – Dec 2020
  Introduction: this project was funded by the headquarter of State Grid Corporation, whose aim was to evaluate feasibility of the flexible HVDC transmission in the integrated energy system.

  - Being responsible for the application of the project and the design of the technical scheme of the project

- **Human-in-the-loop hybrid intelligence of power system (*Contributor*)** Jul 2019 – Jul 2023
  Introduction: this project was funded by the National Natural Key R&D Program of China, whose aim was to establish a human-in-the-loop hybrid enhanced intelligent model for operation and control of power system to reduce the risk caused by the strategic mismatch.

  - Being responsible for the design of the technical scheme of the subtask to realize man-machine coordination in power system operation and control

Awards & Honors

- **Scholarships**
  - Third-class scholarship of Wuhan University **(top 15%)** Dec 2014
  - First-class scholarship of Wuhan University **(top 5%)** Dec 2015 & Dec 2016
  - Second-class Scholarship of Wuhan University **(top 10%)** Dec 2018

- **Contests**
  - Meritorious winner in American mathematical contest in modeling, America Apr 2015
  - First prize of mathematical contest in modeling, Hubei Nov 2015
  - Third prize of mathematical contest in modeling, China Nov 2017 & Nov 2018
  - Second prize of table tennis contest in School of Electrical Engineering , Wuhan University May,2018

- **Honors**
  - Outstanding student of Wuhan University Dec 2014
  - Triple-A student of Wuhan University Dec 2015 & Dec 2016
  - Outstanding graduate student of Wuhan University Dec 2018
  - Advanced individual of graduate innovative and practical contests in China Nov 2017 & Nov 2018