

Haotian SUN

Email: sun.haotian@outlook.com | Website: sunhaotian.works

EDUCATION

Xi'an Jiaotong University (XJTU) GPA: 3.73/4.0, top 2%	Xi'an, China
<i>Master's Degree in Power Electronics & Renewable Energy Research Center (PEREC)</i>	Sept. 2017 – June 2020
CentraleSupélec (Double Degree Program) Average: 14.98/20	Gif-sur-Yvette, France
<i>Engineer's Degree (Diplôme d'Ingénieur)</i>	Sept. 2015 – June 2018
XJTU Special Class for the Gifted Young of China GPA: 3.83/4.3, top 5%	Xi'an, China
<i>Bachelor's Degree in Electrical Engineering</i>	Sept. 2011 – June 2015

PROJECTS

Power Grid Monitor Data Analysis and Failure Maintenance	Sept. 2020 – Present
<i>China State Grid Corporation</i>	<i>Suzhou, China</i>
<ul style="list-style-type: none">Collaborated with the SCADA system and various sensors to monitor operating conditions of electrical devices;Developed an anomaly detection algorithm to capture abnormal symptoms of power equipment.	
Online Monitoring, Analysis and Mitigation of Voltage Sag Events	Oct. 2017 – June 2020
<i>China Electric Power Research Institute</i>	<i>Nanjing, China</i>
<ul style="list-style-type: none">Implemented sag source identification with phase-to-RGB conversion by a modified convolutional neural network;Harnessed few-shot learning technique to improve method learning ability with a small number of sag samples;Developed an efficient approach to precisely pinpoint fault location by cosine similarity and nonlinear optimization;Designed Pareto-optimal monitor allocation method to compromise between cost-efficiency and location accuracy.	
Development of 10kV-level Voltage Sag Compensation Device	June 2019 – July 2020
<i>Guangdong Electric Power Science Academe</i>	<i>Guangdong, China</i>
<ul style="list-style-type: none">Designed a prototype of series compensation device for 10kV-level voltage sag;Verified by two hardware-in-loop devices: one dSPACE for control circuits and one RTBox for power circuits.	
Prototype of Remote-controlled Vehicle	May 2017 – Aug. 2017
<i>CentraleSupélec</i>	<i>Gif-sur-Yvette, France</i>
<ul style="list-style-type: none">Created and composed vehicle model with several Raspberry Pi, Arduino, power electronic circuits;Built websites with control panels that could stream the onboard camera with low-latency and interpret the control signal.	

PUBLICATIONS

- [1] **H. Sun**, H. Yi, F. Zhuo, et al., "Precise Fault Location in Distribution Networks Based on Optimal Monitor Allocation," in *IEEE Transactions on Power Delivery*, vol. 35, no. 4, pp. 1788-1799, Aug. 2020.
- [2] **H. Sun**, H. Yi, G. Yang, et al., "Voltage Sag Source Identification Based on Few-Shot Learning," in *IEEE Access*, vol. 7, pp. 164398-164406, 2019.
- [3] **H. Sun**, X. Du, H. Yi, et al., "Optimal Monitoring Allocation by Considering Voltage Sags Locating and Disturbance Tolerance," *2018 China International Conference on Electricity Distribution (CICED)*, Tianjin, China, 2018.
- [4] X. Du, **H. Sun**, H. Yi, et al., "A Voltage Sag Source Locating Method with Multiple Screening Criteria Considering Voltage Measurement Errors," *2018 IEEE International Power Electronics and Application Conference and Exposition (PEAC)*, Shenzhen, China, 2018.
- [5] X. Du, **H. Sun**, H. Yi, et al., "Discussion on Voltage Sag Source Locating Method in Distribution Network," *2018 China International Conference on Electricity Distribution (CICED)*, Tianjin, China, 2018.
- [6] G. Yang, H. Yi, Z. Yang, **H. Sun** et al., "Comprehensive Evaluation of Multiple Power Qualities in Distributed Network Based on AHP and Optimal Membership," *2020 IEEE 9th International Power Electronics and Motion Control Conference (IPEMC2020-ECCE Asia)*, Nanjing, China, 2020.

TECHNICAL SKILLS

Programming: Matlab, Java, Python, C/C#, HTML/CSS
Simulation Tools: Simulink, PLECS, PSCAD, dSPACE
Data Science Tools: PyTorch, TensorFlow, Scikit-Learn, NumPy, Matplotlib
Editing Tools: Latex, Microsoft Office, Omnigraffle, Final Cut Pro
Languages: Chinese (Native), English, French