ZHENYU ZHAO

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EDUCATION

Temple University, Philadelphia, PA, USA — Jan 2021 – Present
Ph.D. in Computer and Information Science (Transferred to ECE Dept. in 2022 Spring)
Ph.D. in Electrical and Computer Engineering

George Washington University, Washington D.C., USA — Aug 2018 – May 2020
Master of Science in Electrical Engineering

Wuhan University of Technology, Wuhan, China — Aug 2014 – May 2018
Bachelor of Engineering in Automation

WORK EXPERIENCE

Grid Software Intern — Jun 2024 - Present
Siemens — *Minnetonka, MN*

- TNA upgrade project

Intern — Jun 2023 - Apr 2024
PJM Interconnection — *Audubon, PA*

- Studied the Energy Management System (EMS) and analyzed the historical trend of buses
- Wrote Python script translating all transmission information into PI data label, retrieved data building achieved dataset
- Conducted research on nodal load disaggregation with known proxy solar index

RESEARCH AND TEACHING EXPERIENCE

Graduate Research Assistant — Jan 2021 - Present
Temple University — *Philadelphia, PA*

- Conducted experiment of intrusion detection for IoT devices project based on time interval
- Collaborated with `PJM Interconnection` on nodal load disaggregation project. Proposed disaggregation model based on the nodal and zonal relation
- Collaborated with `Plug Power`, building a prognostic health monitoring for hydrogen fuel cell systems. Processed data from different devices, proposed binary classification model based on LSTM, conducted training, outcome analysis, and tuning

Graduate Teaching Assistant — Jan 2021 - Dec 2021
Temple University — *Philadelphia, PA*

- Lecturing and grading for CIS 1051 (Introduction to Python) lab, CIS 3319 (Wireless Network and Security) lab, and CIS 3329 (Network Architectures) lab

ACADEMIC SERVICES AND SKILLS

- Reviewer for: IET Smart Grid, IEEE Transactions on Transportation Electrification, IEEE VPPC, IEEE CDC
- Quantitative analysis, machine learning, data analysis
- Programming language: python

PUBLICATIONS

- D. Moscovitz, **Z. Zhao** et.al, "Bilevel Nodal Behind-the-meter Solar Disaggregation Under Unexpected Extreme Weather Conditions," in IEEE PES General Meeting 2024, accepted
- C. Fu, X. Du, Q. Zeng, **Z. Zhao**, F. Zuo, and J. Di, "Seeing Is Believing: Extracting Semantic Information from Video for Verifying IoT Events," in WISEC 2024, accepted

- **Z. Zhao**, D. Moscovitz, L. Du, and X. Fan "Factorization Machine Learning for Disaggregation of Transmission Load Profiles with High Penetration of Behind-the-Meter Solar ", IEEE Energy Conversion Congress & Expo. (ECCE 2023), Nashville, TN, October 29- Nov 2, 2023
- D. Moscovitz, **Z. Zhao** et.al, "Semi-Supervised, Non-Intrusive Disaggregation of Nodal Load Profiles with Significant Behind-the-Meter Solar Generation," in IEEE Transactions on Power Systems, doi: 10.1109/TPWRS.2023.3334995.
- S. Ziyabari, **Z. Zhao** et.al, "Multi-Branch ResNet-Transformer for Short-Term Spatio-Temporal Solar Irradiance Forecasting," in IEEE Transactions on Industry Applications, doi: 10.1109/TIA.2023.3285202.
- **Z. Zhao**, Y. Chen, and L. Du, "Modeling and Classification of EV Charging Profiles Utilizing Topological Data Analysis", IEEE Transportation Electrification Conf. & Expo, (ITEC 2023), Detroit, MI, June 19-21, 2023
- **Z. Zhao**, D. Moscovitz, S. Wang, X. Fan, and L. Du, "Semi-Supervised Disaggregation of Daily Load Profiles at Transmission Buses with Significant Behind-the-Meter Solar Generations", IEEE Energy Conversion Congress & Expo. (ECCE 2022), Detroit, MI, October 9-13, 2022
- C. Jiang, C. Fu, **Z. Zhao** and X. Du, "Effective Anomaly Detection in Smart Home by integrating Event Time Intervals", The 13th International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN 2022), Leuven, Belgium, October 26-28. 2022