

# LUSHA WANG

3018 SERC, Tuscaloosa, AL 35401, USA

**Assistant Professor**, Electrical and Computer Engineering Department, The University of Alabama

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## EDUCATION

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<b>Washington State University, Pullman, WA, USA</b> Ph.D. in Electrical Engineering, minor in Computer Science Advisor: Dr. Noel Schulz and Dr. Anamika Dubey Thesis: Optimal Planning and Operation of Distribution Systems with Massive Electric Vehicles	Aug.2017-Jan.2022 GPA: 4/4
<b>Wuhan University, Wuhan, China</b> B.E in Electrical Engineering	Sept.2012-Jun.2016 GPA: 3.4/4

## WORK EXPERIENCE

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<b>The University of Alabama, Alabama, United States</b> <i>Assistant Professor</i>	Aug.2023-Present
<b>Argonne National Lab, Illinois, United States</b> <i>Post-doctoral Appointee</i>	Feb.2022-Aug.2023
<b>Argonne National Lab, Illinois, United States</b> <i>Research Aide</i>	May-Dec.2019, May-Aug.2020
<b>Washington State University, Pullman, United States</b> <i>Graduate Research Assistant</i>	Aug.2017-Jan.2022
<b>Virtue Intelligent Network Co., Ltd., Wuhan, China</b> <i>Software Developer</i>	Jul.2016-Jul.2017

## RESEARCH FUNDING

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<b>DOE Joint Office of Energy and Transportation: Development and implementation of end-to-end multi-stakeholder EV charging management framework to enhance grid reliability</b> \$3.07M PI	2025-2027
<b>Argonne National Lab: Economic and reliability analysis for utility feeders with smart charging strategies</b> \$75k UA PI	2023-2024

## PUBLICATIONS

### Journals

- **Lusha Wang**, Anamika Dubey, Assefaw Gebremedhin, Anurag Srivastava, Noel Schulz, "MPC-Based Decentralized Voltage Control in Power Distribution Systems with EV and PV Coordination." **IEEE Transactions on Smart Grid**, 13.4 (2022): 2908-2919.
- **Lusha Wang**, Jonghwan Kwon, Noel Schulz, Zhi Zhou, "Evaluation of Aggregated EV Flexibility With TSO-DSO Coordination." **IEEE Transactions on Sustainable Energy**, 13.4 (2022): 2304-2315.
- **Lusha Wang**, James Halvorsen, Sanjeev Pannala, Anurag Srivastava, Assefaw Gebremedhin, Noel Schulz, "CPSyNet: A tool for generating customised cyberpower synthetic network for distribution systems with distributed energy resources." **IET Smart Grid** (2022).
- Shixin Liu, **Lusha Wang**, Jian Hu, Zhi Zhou, "A Two-Stage Charging Station Allocation Model

for EV Taxi Fleet Considering Interdependence Between the Networks of Transportation and Power Distribution" **IEEE Transactions on Sustainable Energy** (2023).

- **Lusha Wang**, Bo Chen, Yanzhu Ye, Chongfuangprinya Panitarn, Bo Yang, Dongbo Zhao, Tianqi Hong, "Enhancing Distribution System Restoration with Coordination of Repair Crew, Electric Vehicle and Renewable Energy" **IEEE Transactions on Smart Grid** (2024).
- **Lusha Wang**, Anamika Dubey, "Linearized Optimal Power Flow for Unbalanced Meshed/Networked Power Distribution Systems" (submitted to **IEEE Transactions on Smart Grid**).
- Ravi Raj Shrestha, **Lusha Wang\***, Zhi Zhou, Nazib Siddique, Limon Barua, Karthikeyan Balasubramaniam, Yan Zhou, "Infrastructure Upgrade Analysis for Large-scale Real-world Distribution Feeders with Smart Charging Strategies" (submitted to **IEEE Transactions on Smart Grid**).

## Conferences

- **Lusha Wang**, Jonghwan Kwon, Omer Verbas, Aymeric Rousseau and Zhi Zhou, "Charging Station Planning to Maximize Extra Load Hosting Capacity in Unbalanced Distribution System," **2020 IEEE Power & Energy Society General Meeting (PESGM)**, 2020, pp. 1-5.
- R. R. Shrestha, Z. Zhou, L. Barua, N. Siddique, K. Balasubramaniam, Y. Zhou, and **L. Wang\***, "Smart charging impact analysis using clustering methods and real-world distribution feeders," accepted for publication in **2025 IEEE Power & Energy Society General Meeting (PESGM)**, to be published. (Best Paper Award)
- Ravi Raj Shrestha, **Lusha Wang\***, Zhi Zhou, Keren Li, Yan Zhou, "Data-Driven Upgrade Cost Prediction for Real-world Power Distribution Networks with Smart Electric Vehicle Charging Strategies" (submitted to **2025 57th North American Power Symposium (NAPS)**).
- Ravi Raj Shrestha, Cameron Matyjasik, **Lusha Wang\***, Zhi Zhou, Yan Zhou, "Probabilistic Load Flow Modeling using Gaussian Process in Real Distribution Networks" (submitted to **2026 IEEE PES Transmission & Distribution Conference & Exposition (T&D)**).

## FORMAL PRESENTATIONS

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### **2024 IEEE PES General Meeting**

Seattle, WA, USA 2024

*Chaired a panel session "DER-enhanced Sustainable Transportation Electrification and Power Grid Modernization".*

*Presentation on "Power Distribution System Resilience Enhancement with EV Fleet"*

### **2024 INFORMS Annual Meeting**

Seattle, WA, USA 2024

*Presentation on "Advanced Optimization for Transportation Electrification"*

### **2024 Auburn Seminar**

Auburn, AL, USA 2024

*Presentation on "Transportation Electrification – A Pathway to EV Everywhere"*

### **2025 UTK Monthly Faculty Presentation to Industry (online)**

Tuscaloosa, AL, USA 2025

*Presentation on "Transportation Electrification – A Pathway to EV Everywhere"*

### **2025 IEEE PES General Meeting**

Austin, TX, USA 2025

*Presentation on "Utility-Scale Smart Charging Insights for Upgrading Real-World Distribution Networks"*

### **2025 INFORMS Annual Meeting**

Atlanta, GA, USA 2025

*Presentation on "Data Driven Evaluation of Distribution Grid Upgrade Costs under Utility Scale Smart Charging Strategies"*

## AWARDS

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**IEEE PES Grid Edge Technologies 3-Minute Ph.D. Dissertation Challenge Finalist 2023**

**iREDEFINE Professional Development Award 2023**

*Awarded to 12 PhD students and Post-doc in the US and Canada selected by ECE department chairs*

**IEEE PES General Meeting Best Paper Award 2025**

*Smart charging impact analysis using clustering methods and real-world distribution feeders*

## **SERVICE**

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### **Journal Reviewer**

- IEEE Transactions on Power Systems, IEEE Transactions on Smart Grid, IEEE Transactions on Power Delivery, IEEE Power Engineering Letters, IEEE Transactions on Energy Markets, Policy and Regulation, Renewable Power Generation

### **NSF Panel Reviewer**

- Attended NSF Panels – EPCN, SAI as panelist to review proposals in 2024, 2025

### **Committee Member**

- Served on IEEE PES Ramakumar Renewable Energy Excellence Award Committee
- Served on IEEE PES DataPort PES Competition Committee

### **Mentoring**

- Mentored an African American female graduate student intern in ANL
- Mentoring one PhD student and two undergraduate students in the University of Alabama

## **SYNERGISTIC ACTIVITIES**

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- Member, Institute of Electrical and Electronics Engineers (IEEE)
- Member, Institute for Operations Research and the Management Sciences (INFORMS)