Ruoshui Li

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ENERGY AND ENVIRONMENTAL ECONOMICS, INC. Boston, MA
Associate

Ms. Li joined E3 in 2021 after completing a Master of Environmental Management program from Duke University. She previously interned with Wood Mackenzie Power & Renewables where she helped design models to automate wind speed database setup and power output simulation. Ms. Li also holds a B.E. in Environmental Science from Hohai University.

At E3, Ms. Li primarily works in resource planning area to provide utilities with analysis that can enhance their planning efforts for resource adequacy. Currently, she is working with Arizona and New Mexico BAs to conduct a study for characterizing resource adequacy in the Southwest region. She also uses E3's RECAP model to help clients characterize reliability challenges facing in the region in a manner that is broadly accessible to regulators, policymakers, and stakeholders.

DUKE UNIVERSITY, NICHOLAS SCHOOL OF THE ENVIRONMENT Durham, NC
Teaching Assistant August 2020 – May 2021

- Graded assignments and created modeling tutorials for instructors Dr. Dalia Patino-Echeverri and Dr. Luana Lima on *Modeling for Energy Systems* and *Markets for U.S. Electric Systems*.
- Held office hours to answer questions related to power system economic/engineering concepts
- Instructed students on Python debugging to create multiple linear programming models in lab sessions

TSINGHUA UNIVERSITY Remote
Intern, Research Center for Energy Transition and Social Development August 2020 – July 2021

- Researched worldwide best-practice showcases of tri-networks integration (energy, transportation, and information networks) to explore scenarios of reaching net-zero in future power and transportation industry.
- Published 4 editorials introducing Germany's solar subsidy policy; Germany's high-renewable penetration power grid; Slovenia's Net Energy Metering schema; and Vienna's citizen solar plants with blockchain.

WOOD MACKENZIE Houston, TX
Research Intern at Energy Transition Practice Team May 2020 – August 2020

- Proposed an algorithm in Python to collect global wind speed data from NASA MERRA-2 database and simulate wind power generation based on user-specific turbine model/heights. Deployed critical speed coefficient to MySQL database at a remote server.

- Built Excel sheet model to calculate Levelized Cost Of New Entry for installed capacity to enter PJM's Capacity Market.

HOHAI UNIVERSITY Nanjing, CHINA
Research Assistant October 2017 – April 2020

- Measure scarce water saving via international agricultural products trade.
- Research on nitrogen loss embodied in global crop trade.
- Analyze the transition of thermal power plants in Beijing under resource and environmental constraints.
- Research on the impact of water footprint for six megacities in China.

Project Experience

- Solar Net Energy Metering
  - Conducted Optimal Power Flow (OPF) analysis to quantify how NEM schema changes grid power flow and influences congestion, nodal price, and utility's avoided cost.
  - Evaluated NEM policies by performing a cost-benefit analysis from different stakeholder perspectives.
- OCR practice: Electricity meter recognition
  - Implemented a state-of-art, CNN-based object detector *yolo* for detecting counters in electric meter images.
  - Trained a model to learn class possibilities with coordinates of the counter area and automatically record electric meters.
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Education

Duke University Durham, NC
Master of Environmental Management June 2021

Hohai University Nanjing, CHINA
B.E., Environmental Science June 2019

Publication

1. X.Zhang, X.Zhao, **R.Li**, G.Mao, et al (2020)*, Evaluating the vulnerability of physical and virtual water resource networks in China's megacities*. Resources, Conservation and Recycling, 161.
2. X.Liao, X.Zhao, W.Liu, **R.Li**, X.Wang et al (2020), *Comparing water footprint and water scarcity footprint of energy demand in China's six megacities.* Applied Energy, 269.

Citizenship

China