



Chen Zhang

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ENERGY AND ENVIRONMENTAL ECONOMICS, INC.

San Francisco, CA

Managing Consultant

Ms. Zhang joined E3 in 2020 and primarily works in E3's resource planning practice area to help utilities, states, and municipalities tackle planning challenges surrounding renewable energy integration and decarbonization. She uses E3's capacity expansion and resource adequacy models, such as RESOLVE and RECAP, to help clients identify cost-effective and reliable energy portfolios. Ms. Zhang came to E3 after completing her Master of Science degree in civil and environmental engineering at Stanford University, where her study focused on electricity market modeling and analysis. She brings with her an understanding of the technical and economic aspects of energy resources. In addition to her master's degree, Ms. Zhang holds a bachelor's degree in civil and environmental engineering from University of Illinois at Urbana-Champaign.

Select E3 projects include:

- **Decarbonization Pathways of the Energy Portfolio, Omaha Public Power District (2021).** Performing reliability and resilience assessments for the power system through determining the planning reserve margin and the effective load carrying capability for various energy resources to ensure the system maintains an adequate level of reliability.
- **Integrated Resource Plan, El Paso Electric (2020).** Performing long-term capacity expansion modeling to meet New Mexico's requirement for 100 percent zero-carbon energy by 2045, considering the capabilities of both supply-side and demand-side resources.

TESLA, INC.

Palo Alto, CA

Sales Analyst Intern, Commercial Energy Team

Feb 2020 – Mar 2020

- Evaluated cost savings associated with solar and storage systems for commercial customers
- Analyzed various tariffs and incentive programs to maximize the customer value proposition

STANFORD UNIVERSITY

Stanford, CA

Teaching Assistant, Department of Civil and Environmental Engineering

Mar 2019 – Mar 2020

- Held review sessions and weekly office hours to help students with course content and assignments for courses *Understanding Energy* and *Electricity Economics*

WESTERN ELECTRICITY COORDINATING COUNCIL

Salt Lake City, UT

Data Analyst Intern, Performance Analysis Team

Jun 2019 – Aug 2019

- Used machine learning techniques to develop a framework for analyzing changes in demand patterns

- Analyzed 13 years of hourly data in 30 balancing authorities within the Western Interconnection and examined geographical differences
- Investigated the impacts of behind-the-meter and utility-scale renewable generation resources on load shapes and identified bulk grid system risks in certain regions

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN (UIUC)

Research Assistant, Engineering System Design Lab

Urbana-Champaign, IL

Mar 2017 – May 2018

- Designed and optimized a small-scale wind turbine located in a region with low wind speeds
- Modeled wind turbine in 3D design and fluid mechanics software and studied the performance of different configurations

UIUC Institute for Sustainability, Energy, and Environment

Intern

Urbana-Champaign, IL

May 2017 – Dec 2017

- Audited energy and water consumption in 10 campus buildings and worked with building managers to identify improvement opportunities
- Promoted building-specific actions to conserve energy and reduce water usage to occupants

Project Experience

- **Optimal Charging of Autonomous EV Fleets in a Distribution Grid with High Penetration of Solar PV**
 - Examined the potential distribution system operation violations caused by high penetration of solar PV
 - Developed an optimization model to evaluate EVs' potential to resolve system violations with charging price incentives
- **California's Cap-and-Trade Program and Renewables Portfolio Standard in the Electricity Sector**
 - Examined emission reductions in California and evaluated the effectiveness of the two policies
 - Analyzed emission leakage, cost of compliance, and social equity issues associated with policy implementation

Education

Stanford University

Master of Science, Civil and Environmental Engineering

Stanford, CA

April 2020

University of Illinois at Urbana-Champaign

Bachelor of Science, Civil and Environmental Engineering

Urbana-Champaign, IL

May 2018