Teng Zeng

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EDUCATION

University of California, Berkeley, Berkeley, CA
B.S. in Energy Engineering major August 2014 – May 2018

University of California, Berkeley, Berkeley, CA
Ph.D. in System Engineering with optimization and machine learning minor Planned 2023

Skills and Courses:
Python, MATLAB, PostgreSQL, Java, Js, Arduino, CSS, R, Scheme
Optimization (convex, MIP, robust, etc.), Data Mining, Machine Learning, Random Process, Control System theory

PROFESSIONAL EXPERIENCE

Energy, Controls, &Applications Lab (eCAL), Berkeley, CA
Graduate Student Researcher May 2017 - present

- Research topic: 1. Optimal planning (paper in progress) and smart charging operation for PEV charging station.
    - Mixed Integer Linear Programming for PEV charging station planning with interchange mechanism enabled.
    - Stochastic programming and Monte-Carlo simulation for rolling horizon optimization to validate the effectiveness of proposed idea, showed significant cost reduction (70%).
- Research topic: 2. PEV charging station energy/load profile forecasting (machine learning techniques).
    - Applied machine learning algorithms for station short-term load forecasting, Artificial Neural Networks, KNN, Pattern Sequence Forecasting, Random Forest (AdaBoost), etc.
- Project topic: 1. PEV charging station daily utilization data mining
    - Developed data mining (scraping) scripts for phone-simulator on Linux, automatically extracting target data and storing in database. Managed 86,000+ charging piles daily utilization data including time, duration, price, power, etc.
    - Developed 10 distributed data mining subsystems, parallelized collection process of charging infrastructure information (80+ features) and one centralized PostgreSQL database for time-series data storage.
    - Exploratory data analysis on scaled deployment of PEV charging stations, PEV drivers charging behaviors, and characterization of charging stations.

Lawrence Berkeley National Laboratory (LBNL), Grid Integration Group, Berkeley, CA
Student Research Assistant August 2015 - May 2017

- Research topic: 1. Optimal bidding strategy with risk averse model and EV battery degradation cost considered.
- Project topic: 1. Plug-in hybrid electric vehicles lithium-ion battery degradation model written in Python scripts as an extended module to V2G-Simulator (R&D100 awards recipients).
- Publication: D. Wang, J. Coignard, **T. Zeng**, C. Zhang, S. Saxena "Quantifying electric vehicle battery degradation from driving vs. vehicle-to-grid services." J Power Sources, 332 (2016), pp. 193-203 (G-scholar 43 citations).

Technische Universität München (TUM)-CREATE, RP 8 – Energy Management, Singapore
Student Research Assistant May 2016 – August 2016

- Developed MySQL database for Nanyang Technological University(NTU) buses energy consumption data storage and bridged communication between MATLAB and MySQL.
- Nanyang Technological University campus buses energy consumption analysis, identified trends and patterns in each NTU buses, and sought potential improvements to prevent buses from overloading.

LEADERSHIP EXPERIENCE

Association of Chinese Entrepreneurs (ACE), Berkeley, CA
Core Member September 2018 - Present

- Arrange entrepreneur speaker panels to the public.
- Arrange site visiting to startup companies in Silicon Valley and around the Bay Area.