Teng (Janton) 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

Familiar with:
- Python, MATLAB, PostgreSQL, Java, Js, Arduino, CSS, R, Scheme
- Data mining/analytics, linear/nonlinear control, machine learning, optimization, random processes, reinforcement learning

PROFESSIONAL EXPERIENCE

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

- Research topic:
  1. Optimal planning for plug-in electric vehicle (PEV) charging station (*"Solving Overstay and Stochasticity in PEV Charging Station Planning with Real Data"*, **paper in revision process**).
  2. Smart charging operation with human decision modeling for PEV charging station (*"Inducing Human Behavior to Alleviate Overstay at PEV Charging Station"*, **paper in review**).
  3. Autonomous electric vehicle (AEV) fleet sizing and charging infrastructure planning (*"Charging Infrastructure Demands of Shared-Use Autonomous Electric Vehicles in Urban Areas"*, **paper in revision process**).
  4. PEV charging station load profile forecasting (undergraduate, presented at TBSI annual retreat 2018).
     - Applied machine learning algorithms for station short-term load forecasting, Artificial Neural Networks, KNN, Pattern Sequence Forecasting, Random Forest (AdaBoost), etc.
     - Exploratory data analysis on scaled deployment of PEV charging stations, PEV drivers charging behaviors, and characterization of charging stations.
     - Data mining of 86,000+ chargers' 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.

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 75 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