Mark Ditsworth

WORK EXPERIENCE

APR 2019 – PRESENT

Capital One
Data Engineer

– Supported a petabyte-scale data lake for cyber-security and network telemetry data.
– Architected and implemented an automated re-hydration service for a fleet of Elasticsearch clusters, saving 80 man-hours semi-monthly.

JUL 2018 – APR 2019

Raytheon, Information & Intelligence Services
Systems Engineer

– Created a Bayesian statistical model to predict an interval of high likelihood for security clearance investigation completion. An average error of ± 5 days was observed.

JUN 2014 – JUL 2018

Renewable Energy & Vehicular Technology Lab
Research Assistant

– Coded a reinforcement learning algorithm for training a fault-tolerant microgrid controller.
– Created cloud applications for IoT data collection for real-time fault diagnostics of switch-reluctance motors.

AUG 2016 – AUG 2017

Energy Storage Systems Lab
Research Assistant

– Proposed, prototyped, and characterized a novel method for Lithium-Ion battery pack cell balancing for electric vehicle applications.

VOLUNTEER EXPERIENCE

SEPT 2016 – MAY 2017

IEEE Educational Outreach
Team Lead

– Built and presented a scale model of the power grid to educate K-12 audiences.

DEC 2015 – JUL 2016

UT Dallas Hyperloop Pod Competition Team
Power System Team Lead

– Presented system to a panel of engineers from SpaceX and Tesla Motors at the semi-final competition

AUG 2015 – MAY 2017

IEEE Industry Applications Society - UTD Chapter
President

– Created semi-weekly tech talks to boost student engagement, provide public speaking opportunities, and facilitate informal cross-department communication.

Dallas, TX
markditsworth@protonmail.com
www.linkedin.com/in/markditsworth
www.twitter.com/markditsworth

FORMAL EDUCATION

2019 **M.S. Systems Engineering**
UNIVERSITY OF TEXAS - DALLAS
Thesis: Modeling of aging process in wide bandgap devices

2018 **Machine Learning Nanodegree**
UDACITY
Capstone: Binary classification of manufacturing defects

2017 **B.S. Electrical Engineering**
UNIVERSITY OF TEXAS - DALLAS
Magna Cum Laude, CV Honors College, National Merit Scholar

SELF-PACED COURSEWORK

Probabilistic Systems Analysis

Economics of International Energy

Electric Industry Operations & Markets

Wind Resources for Renewable Energies

Management of Smart Urban Infrastructures

PUBLICATIONS

2019 **Community Detection With Katz and Eigenvector Centrality**
Complex Networks 2019 - Lisbon

2018 **Machine Learning based Energy Management System for grid disaster mitigation**
IET Smart Grid

2018 **A Battery Pack Reconfiguration Scheme for Improved Charge Balancing**
ACC 2018 - Milwaukee

2015 **A magnetically enhanced wireless power transfer system for compensation of misalignment in mobile charging platforms**
ECCE - Montreal

WRITING SAMPLES

Brief on UHVDC in China

Primer on Plasma-Assisted Hydrogen Reformation

Innovation and Technology