

# Jeet Dhoriyani

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## EDUCATION

**Cornell University, Ithaca, NY**

**08/21 - 05/23**

*Master of Science in Systems Engineering*

**GPA: 3.77/4.00**

- **Coursework:** Computational Optimization, Industrial Big Data & ML, Learning from Big Messy data, Optimization under uncertainty & Online algorithms

**L.D. College of Engineering, Ahmedabad, Gujarat, India**

**08/16 - 08/20**

*Bachelor of Engineering in Electrical Engineering*

**GPA: 8.4/10.0**

## TECHNICAL SKILLS

**Programming Skills:** Python, R, SQL, C/C++, MATLAB, Java

**Core Skills:** Optimization, Machine Learning, Quantum informatics, Software Production, Quantum Optimization

**Optimization & ML Algorithm:** K-NN, ANN, SVM, Robust Optimization, DMUU, Multi Objective Optimization

## PROFESSIONAL & ACADEMIC EXPERIENCE

**Graduate Researcher, PEESE Lab, Cornell University**

**08/21 – 05/23**

- Developed use cases of Quantum Approximate Optimization Algorithms for Large scale data systems

**Full Stack Engineering Analyst, Accenture, India**

**10/20 – 08/21**

- Developed new features and infrastructure to run on the backend in the cloud, responsive web front-end and mobile devices
- Structured, maintained and performed processes to continuously monitor data quality and integrity in platform applications
- Designed custom report dashboard and business analytics tool for business process enhancement

**Graduate Teaching Assistant, Cornell University, Ithaca**

**08/21 – 08/22**

- Fall 2022 INFO 5101: Learning Analytics
- Summer 2022 CS 2110: Object Oriented Programming and Data Structure (software production)
- Spring 2022 CS 5356: Building Startup System (software production)
- Fall 2021 SysEn 5300: Six Sigma for Design and Operation of Reliable Systems
- Responsibility included: In Class question solving, Office Hours, Designing and grading assignments and finals

**Undergraduate Researcher, L.D. College of Engineering, India**

**08/19 – 08/20**

- Developed an Optimal Trading Strategy for Energy Market using Combinatorial Optimization and Game Theory
- Implemented Thermo-Vibrational feature based Fault detection system using Neural Network in Power Transformers

## MAJOR PROJECT WORKS

**Robust MDPs with Applications in Fisheries Management**

**05/22**

- Derived optimal policy for fisheries under (s,a) rectangular uncertainty under robust setting
- Developed numerical and empirical proof of work simulations for the algorithm

**Wine Quality prediction using unsupervised machine learning**

**04/22**

- Implemented various modified unsupervised machine learning algorithms on standard wine quality data set
- Demonstrated wine quality correlations with key parameters using advance data visualization

**Quantum Approximate Optimization Algorithm based green unit commitment problem**

**12/21**

- Developed warm start QAOA method for Green Unit commitment MIQLP problem using IBM Qiskit
- Formulated **17%** faster Warm start algorithm with normal QAOA algorithm in compare to conventional computing based solution on GuRoBi solver

**Topology optimization of HVAC duct design for improved air flow and efficiency**

**10/ 21**

- Minimized Pressure loss by 24% while optimizing topology using adjoin optimization method
- Incorporated case study for optimized standard industrial duct flow apparatus using OpenFoam and CFD

## RESEARCH PUBLICATION

- **J. Dhoriyani**, R. Macwan and C. Upadhyay. “A Game-Theory Based Analysis of the Effects of Energy-Storage System Utility Strategies on the Short Term Energy Market ” in IEEE PES International Transactive Energy Systems Conference and Workshop (TESC 2020) Dec. 2020
- **J. Dhoriyani**, R. Macwan and C. Upadhyay. “A Clustering Algorithm for Connected Entities in a Transactive Energy System for Optimal Battery Usage ”, in International Conference of Smart Energy Grid Engineering (SEGE 2020) Aug. 2020
- **J. Dhoriyani**, “An Energy storage planning and analysis of microgrid: A college campus case study ” in Advances in Smart Grid Automation and Industry 4.0 Dec. 2019

## KEY POINTS

- **Patent- Batt-Co-Gen Application ID:202021036267** **05/20**  
Cyber Physical System to integrate stack holders for Microgrid based Optimal Energy Trading
- **Paper Reviewer**  
2021 IEEE International Conference on Systems, Man, and Cybernetics (SMC 2021)  
2020 IEEE PES Innovative Smart Grid Technologies Europe (ISGT Europe 2020)  
2020 IEEE Region 10 Conference (TENCON)