

## Education and Experience

*Georgia Institute of Technology* *Master of Science/Computer Science* *09/2020 – present*

Courses: Machine Learning, Data Science, Database, Software development and analysis

*STATE GRID Corporation of China* *Data Scientist* *08/2019 – 09/2020*

**Machine Learning in Power Grid Load Forecast**

- ◆ Provided forecast information for decision making
- ◆ Responsible for machine learning model (RNN, LSTM) compiling based on the different architectures

**Central Big Data Platform**

- ◆ Research on the collection and processing of massive data (Cooperated with Alibaba)
- ◆ Responsible for the dynamic monitoring and diagnosis system for the power system

*Xi'an Jiaotong University /XJTU* *Master / Electrical Engineering (5%)* *09/2016 – 06/2019*

**Enhancement of the electrical breakdown property of the power equipment for HVDC (power capacitor and cable)**

- ◆ Investigated molecular motion property and dynamic process of electrical breakdown (polymer material)
- ◆ Investigated the changes in electrical property brought by interphase property (Electron transport)

**Insulating property and its regularity of dielectrics in current transfer and energy dissipation**

- ◆ Compiled current(carrier) and energy dissipation model and computational calculation
- ◆ Investigated the physical mechanism of current and energy transfer in the insulating material

**Machine Learning for charge transport property in silicon rubber under harmonic aging**

- ◆ Investigated dynamic dielectric property variations of the silicon rubber
- ◆ Built model for longevity forecast of silicon rubber and power cable

*Northwestern Polytechnical University / NWPU* *Bachelor / Electrical Engineering (10%)* *09/2012 – 06/2016*

**Design of the Battery Management System for the electrical vehicles**

- ◆ Design of the high-performance sensor and communication node in the battery communication system
- ◆ Dynamic electron/ion migration modeling and calculation

## Research Interest

Power Transmission, Dielectrics, Machine Learning, Smart Grid, Distributed Energy System

## Publication List

- 1 *Carrier Transport and Molecular Displacement Modulated dc Electrical Breakdown of Polypropylene Nanocomposites*  
Min D, **Yan C\***, Mi R, Ma C, Huang Y, Li S, Wu Q, Xing Z. *Polymers*, **2018**, 10(11)
- 2 *Dielectric and Carrier Transport Properties of Silicone Rubber Degraded by Gamma Irradiation*  
Min D, **Yan C\***, Huang Y, Li S, Ohki Y. *Polymers*, **2017**, 9(10)
- 3 *Space-charge Modulated Electrical Breakdown in Polyethylene Nanodielectrics*  
Min D, **Yan C\***, Mi R, Cui H, Li Y, Wang W, Frechette M, Li S. *IEEE Nanotechnology Magazine*, **2018**, 12(2)
- 4 *Thickness Dependent dc Electrical Breakdown of Polyimide Modulated by Charge Transport and Molecular Displacement*  
Min D, Li Y, **Yan C**, Xie D, Li S, Wu Q, Xing Z. *Polymers*, **2018**, 10(9)
- 5 *Polypropylene Nanocomposite for Power Equipment: A Review*  
Cheng L, Chi X, **Yan C\***, Xie D, Liu X, Wen Y, Liu W, Li S. *IET Nanodielectrics*, **2018**, 1(2)

\* The first author as the student

## Conferences and Presentations

- 1 *Electrical Breakdown of Polymer Nanocomposites Modulated by Space Charges*  
Min D, **Yan C\***, Wang W, Xie D, Frechette M, Li S. *17<sup>th</sup> International Conference on Nanotechnology*, **2017**, 267-269
- 2 *Influence of Filler Content on Conductivity of Epoxy Resin Nanocomposites*  
Min D, **Yan C\***, Huang Y, Xie D, Liu W, Li S. *20<sup>th</sup> International Symposium on High Voltage Engineering*, **2017**, 1-6
- 3 *Numerical Simulation on Dc Breakdown of Polyimide Based on Charge Transport and Molecular Chain Displacement*  
Li Y, **Yan C**, Min D, Li S, Xing Z, Zhang L, Zhang C. *IEEE Conference on Electrical Insulation and Dielectric Phenomenon*, **2019**, 108-117
- 4 *Effect of Deep Traps and Molecular Motion on dc Breakdown of Polyethylene Nanocomposites*  
Mi R, **Yan C**, Wu Q, Min D, Li S. *IEEE Conference on Electrical Insulation and Dielectric Phenomenon*, **2019**, 1087-1096

5    *Study on Short-Term dc Breakdown and Corona Resistance Mechanism of Polyimide (Presentation)*  
Xie D, **Yan C**, Huang Y, Min D, Li S. Xie, D., *International Symposium on Electrical Insulating Materials*, **2017**, 437-441

6    *DC Electrical Breakdown of Low-density Polyethylene Nanodielectrics Modulated by Charge Transport and Molecular Displacement*  
Li, Q; Min M; **Yan C**; W W; Li S; Zhang G; Liu J. *IEEE International Conference on High Voltage Engineering and Application*, **2020**

7    *Surface Trap and Carrier Transport of Aged and Pristine Oil-Paper Under Harmonic Voltage by Surface Potential Decay (Poster)*  
Li S, Yan W, **Yan C**, Din D, Li S, Kang W. *IEEE Conference on Electrical Insulation and Dielectric Phenomenon*, **2017**, 94-97

Fellowships, Honors and Awards

2019	Outstanding Graduate Student	Xi'an Jiaotong University
2018	National Scholarship	Ministry of Education of the People's Republic of China
	National Special Scholarship	State Key Laboratory of Electrical Insulation and Power Equipment
	First-class Scholarship	Xi'an Jiaotong University
	Excellent Graduate Student Award	Xi'an Jiaotong University
2017	National Scholarship	Ministry of Education of the People's Republic of China
	National MCM for the graduate, Honorable Mention	China Society for Industrial and Applied Mathematics
	First-class Scholarship	Xi'an Jiaotong University
	Excellent Graduate Student Award	Xi'an Jiaotong University
2016	Scholarship for Outstanding Freshman	Xi'an Jiaotong University
	Outstanding undergraduate student	Northwestern Polytechnical University
2015	Provincial Special Scholarship	Education Department of Shaanxi Provincial Government
	First-class Scholarship	Northwestern Polytechnical University
	International MCM, Honorable Mention	Consortium for Mathematics and Its Application
	5th Mathorcup International MCM, Outstanding Award	China Society for Industrial and Applied Mathematics
	Excellent Undergraduate Student	Award Northwestern Polytechnical University
2014	First-class Scholarship	Northwestern Polytechnical University
	E+H Special Scholarship	Education Department of Shaanxi Provincial Government
	National MCM, Outstanding award	Ministry of Education of the People's Republic of China
	National College Debate Contest, Best Debater	Debate Association of China
	Japan, Korea and China Forum, Excellent World Teenager	United Nations Association of China
	Excellent Undergraduate Student Award	Northwestern Polytechnical University
2013	First-class Scholarship	Northwestern Polytechnical University
	Excellent Undergraduate Student Award	Northwestern Polytechnical University

Teaching Experience

- 2018    Guider for an undergraduate thesis
- 2017    TA for Dielectric Physics • Solid Physics

Expertise and Skills

- Synthesis of nanomaterial/device • Characterization • Testing • Analysis
- Electron transport • Energy transfer/storage • Molecular machinery
- Computational Calculation • Modeling Algorithm • Machine Learning
- Coding Python/TensorFlow/C/JAVA/MATLAB • Basic web development skill HTML/JavaScript

Selected MCM Topics

2018	Cooperative jamming of grouped radars by multiple UAVs	National MCM for postgraduate
2015	Image processing and emotional words recognition	International Mathorcup MCM
2014	Soft landing orbit design and control strategy for Change III satellite	National MCM for undergraduate
2014	Ebola spreading model and vaccine transport optimization	International MCM

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