QI LI

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Research Interests

- Deep Learning- and Image Processing- based distributed cyberinfrastructure data analytics of Cyber-Physical Systems (e.g., smart cities, smart homes, Internet of Things, etc.).
- I design and implement a wide range of open-sourced data-driven computer systems.

Education

➢ Florida International University.
- ◆ Ph.D. candidate in Computer Science, Research/Teaching Assistant, since Spring 2019.
- ◆ Advisor: Dr. Dong Chen.

➢ Northeastern University, China. (985 Project, 211 Project)
- ◆ M.S. in Control Engineering, from Sep. 2016 to Dec. 2018.
- ◆ Advisor: Dr. Tong Jia.

➢ China University of Petroleum. (211 Project)
- ◆ B.S. in Automation, from Sep. 2012 to Jun. 2016.

Publications (Conferences)

- [**IPSN'20**] Qi Li, Yuzhou Feng, Yuyang Leng, Dong Chen. "*SolarFinder: Automatic Detection of Solar Photovoltaic Arrays*". In Proceedings of the 19th ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN'20), April 21-24, 2020, Sydney, Australia, Acceptance Rate = 21.77%.
- [**IGSC'20**] Qi Li, Keyang Yu, Dong Chen. "*SolarDiagnostics: Automatic Rooftop Solar Photovoltaic Array Damage Detection*". In Proceedings of the 11th International Green and Sustainable Computing Conference (IGSC'20), October 19-22, 2020, Acceptance Rate = 23%.
- **[BuildSys'20]** Yuzhou Feng, Qi Li, Dong Chen and Raju Rangaswami. *"SolarTrader: Enabling Distributed Solar Energy Trading in Residential Virtual Power Plants".* In Proceedings of the 7th ACM International Conference on Systems for Energy-Efficient Built Environments (BuildSys'20), November 16-19, 2020, Yokohama, Japan, Acceptance Rate = 24%.
- **[BuildSys'20]** Qi Li, Keyang Yu, Dong Chen. *Poster: "Automatic Damage Detection on Rooftop Solar Photovoltaic Arrays"*In Proceedings of the 7th ACM International Conference on Systems for Energy-Efficient Built Environments (BuildSys'20), November 16-19, 2020, Yokohama, Japan.
- [**IGSC'20**] Qi Li, and Dong Chen. "*Exposing the location of anonymous solar-powered homes: poster.*" In Proceedings of the 12th Conference on Security and Privacy in Wireless and Mobile Networks, pp. 324-325. 2019.

Publications (Journals)

- Qi Li, Keyang Yu, and Dong Chen. "*Automatic Rooftop Solar Photovoltaic Array Damage Detection*". Sustainable Computing: Informatics and Systems, accepted and to appear.

Research Experience

- SolarTrader: Enabling Distributed Solar Energy Trading in Residential Virtual Power Plants. https://github.com/cyber-physical-systems/SolarTrader
    - We design a new solar energy trading system - SolarTrader that enables unsupervised, distributed, and long term fair solar energy trading in residential VPPs.
- SolarDiagnostics: Automatic Rooftop Solar Photovoltaic Array Damage Detection. https://github.com/cyber-physical-systems/SolarDiagnostics
    - We design a new system - SolarDiagnostics that can automatically and accurately detect and localize any damage that may exist on rooftop solar PV arrays using their rooftop images with a lower cost.
- SolarFinder: Automation Detection of Solar photovoltaic Arrays. https://github.com/cyber-physical-systems/SolarFinder
    - We design a new system -- SolarFinder that can automatically detect distributed solar PV arrays in a given geospatial region without any extra cost.
    - SolarFinder leverages multidimensional K-means algorithm, support vector machine modeling and deep convolutional network approach.
- Present 3D Unet convolutional neural network for lung nodule classification
    - Using the platform giving by Ali cloud to analyze the big data of CT scans
    - Design a 3D Unet network to detect nodules in 3D lung CT scans, assign the possibility of getting cancer.
- Cardiovascular OCT vulnerable plaque recognition ---cccv 2017 contest
    - Design a new algorithm that can detect the localization of vulnerable plaque using deep learning method.
    - write the codes that implement the algorithm using python language, caffe deep learning framework.

Research Experience, Teaching Experience and Services

➢ **Research Assistant**

- Cyber-Physical Systems Laboratory (CPSLab), Florida International University, Fall 2020.

➢ **Teaching Assistant**

- COP 4610 Operating System, Florida International University, Fall 2019.
- COP 5614 Operating System, Florida International University, Spring 2019
- Machine Learning in NSF RET Program, Florida International University, Summer 2020
- COP2210 Programming 1, Florida International University, Spring 2020

➢ **ACM Conference Volunteer**

- ACM SenSys'20 and BuildSys'20 Joint Conference Student Volunteer.

Awards

- IGSC 2020 NSF-funded student participation award Oct. 2020
- National Scholarship (5 %) Dec.2017
- The third prize in Cardiovascular OCT vulnerable plaque recognition contest Oct.2017
- Outstanding Graduates in Shandong Province Jul.2016