Bin Yu

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SUMMARY STATEMENT

I can work in reliability and robust optimization. In my undergraduate project, I applied the generic algorithm to solve the redundancy allocation problem, solve the convex constraint optimization by Lingo and implement the basic machine learning to predict the pedestrian flow by TensorFlow, such as RNN and MLP.

EDUCATION

National University of Singapore, SG — Expected 2025
PhD of Institute of Operations Research and Analytics

University of Massachusetts, Amherst, MA — January 2020-Auguest 2021
Master of Electrical and Computer Engineering — GPA:3.44/4

University of Electronic Science and Technology of China — September 2015-June 2019
Bachelor of Industrial Engineering — GPA:3.07/4

RELEVANT COURSES

Operations Research, Reliability Engineering, Applied Stochastic Process, Mathematics Experiment, ACM-ICPC Algorithm and Program Design, Calculus I, Calculus II, Engineering Optimization, Probability and Mathematical Statistics, Foundations in Computer Engineering (ECE510)

RELEVANT EXPERIENCE

Conference Paper, University of Massachusetts Amherst — June 2020 – August 2020

- Based on the quartile to filter the outlier, and labeled the original data by the Gaussian Mixture Model [1]
- Construct the Deep Belief Network and Dempster–Shafer theory model to predict wind turbine system health
- Get healthy assessment based on statistical indicators of historical data

Thesis, University of Electronic Science and Technology of China — May 2020

- Interpreted the code of CuraEngine, which is an open-sources slice software
- Analyzed the structure of CuraEngine, including importing STL file, external support algorithm, slice algorithm and path optimization
- Used Python to implement adaptive-thickness slice algorithm, and then import into CuraEngine for slice test

University Student Innovation and Entrepreneurship Program, — October 2018 - June 2019
University of Electronic Science and Technology of China

- Assembled 4-axis aircraft by F450 and adjust the variable of flight controller by mission planner.
- Applied Chinese invention publication about encryption and decryption by face and PCA algorithm to guarantee the security of products

COMPUTER SKILLSss

Programming in MATLAB, C++, Python
Proficient with network crawl, PYQT5, Selenium, Scikit-learn

PUBLICATIONS

[1] Yu, B. (2021). A Deep Belief Network and Dempster-Shafer Theory Multiclassifier for Reliability of Wind Turbine System. In IOP Conference Series: Materials Science and Engineering (Vol. 1043, No. 3, p. 032057). IOP Publishing.