Jianwen Ge

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EDUCATION BACKGROUND

Shanghai Jiao Tong University (Shanghai, China) 2018/09 - 2021/03(expected)

Master of Mechanical Engineering

Selected Course: Matrix Theory, Optimization Theory,Computational Method, Digital Signal Processing, Industrial Intelligent Maintenance and Predictive Diagnosis

GPA: 86.5（49/152）

Shanghai Jiao Tong University (Shanghai, China) 2014/09 - 2018/06

Bachelor of Mechanical Engineering

Selected Course: Calculus, Modern Control Theory, C++ Programming, Python Programming, Single-Chip Microcomputer Technology, Matlab Programming, Robotics

GPA: 3.49/4

RESEARCH EXPERIENCE

Glove-Form Soft Rehabilitation Robot 2016/4-2016/9

Researcher in Advanced Robotics Lab, SJTU (Advisor: Prof. Dingguo Zhang)

- Improve the mechanical design of a glove-form soft robot for finger rehabilitation.

Recognition and Classification of Flange Surface Defects Based on Deep Learning 2017/10-2018/6

Researcher in Mechatronic and Logistics Equipment Lab, SJTU (Advisor: Prof. Liang Gong)

- Designed a mechatronic system for lighting and photographing.
- Developed a Convolutional Neural Network (CNN) to detect and classify defects.
- Developed a Generating and Analyzing Network (GAN) for data augmentation.

Intelligent Monitoring and Diagnosis of Automatic Guided Vehicle (AGV) 2018/9-2020/11

Researcher in Mechatronic and Logistics Equipment Lab, SJTU (Advisor: Prof. Yixiang Huang)

- Established a data acquisition system to collect the sensor data using LabVIEW and upload data to the cloud database.
- Developed several machine learning algorithms for fault classification using the vibration data collected, such as Random Forest and Multi-Layer Perception.
- Designed a website accessing the data in the cloud database, monitoring the AGV state, and showing the result of failures diagnosis and the remaining useful life (RUL) prediction. (http://129.28.194.197:8008/)

Accelerated Aging Test and Remaining Useful Life Prediction of IGBT 2019/7-2020/12

Researcher in Mechatronic and Logistics Equipment Lab, SJTU (Advisor: Prof. Yixiang Huang)

- Designed an accelerated aging test-bed to collect Run-to-Failure data using LabVIEW.
- Developed several RUL prediction methods using deep learning algorithms, such as DeepAR, Attention mechanism.
- Established a finite element model to simulate the aging process of IGBT and study the aging mechanism.

SELECTED COURSE PROJECT

Intelligent Hotpot Assistant (Instructor: Prof. Jianfeng Tao) 2019/3-2019/9

- Designed a robot arm to put food into the pot and fish food.
- Developed a CNN algorithm to classify different dishes using machine vision.
- Designed a user interaction interface to provide ordering and settlement services using Python Qt.

Industrial Robotic Kinematic and Dynamic Simulation (Instructor: Prof. Ye Ding) 2017/3-2017/7

- Designed and assembled a 6-axis robot in Solidworks.
- Simulated the Kinematic and Dynamic performance in Adam.

Robotic Kinematic Calibration (Instructor: Prof. Ye Ding) 2017/3-2017/7

- Established a product of exponent (POE) method and modified D-H (MDH) method for robotic kinematic Calibration.
- Designed a user interaction interface for adjusting parameters and showing the results of different methods.

WORKING EXPERIENCE

Intel Asia-Pacific R & D Ltd Shanghai, China

Intern of the Common Platform BIOS Dev department 2019/4-2019/8

- Debug BIOS system and improve code quality

Shanghai Wenhetan Intelligent Manufacturing Co., Ltd Shanghai, China

Intern of the Product R & D department 2018/6-2018/9

- Design plastic injection equipment, and make engineering drawings and assembly drawings

Student Employment Service & Career Development Center, SJTU Shanghai, China

Management Assistance of the Communication Department 2017/9-2019/12

- Assist companies in the campus talk and recruitment

PUBLICATION

- **Jianwen Ge**, Yixiang Huang, Zhiyu Tao, Bingchu Li, Dengyu Xiao, Yanming Li, Chengliang Liu, RUL Prediction of IGBT Based on DeepAR Using Transient Switch Features. *2020,* VOL. 5 NO. 1(2020): Proceedings of the European conference of the PHM society 2020. (https://phmpapers.org/index.php/phme/article/view/1234)
- **Jianwen Ge**, Yixiang Huang, Zhiyu Tao, Chengliang Liu, and Pengcheng Xia. IGBT Remaining Useful Life Prediction Based on Transient Thermal Impedance (Submitted to IEEE Transactions on Power Electronics)

PATENT

- Sitting type passive knee rehabilitation machine. Patent number: ZL 2017 1 0409270.X
- IGBT residual life prediction and condition evaluation method. Patent number:2020 1 0482674.5

SCHOLARSHIP

- SMC Takata Scholarship 2019
- National Encouragement Scholarship 2017
- Academic Progress Scholarship 2016
- First-Class Academic Excellent Scholarship of Shanghai Jiao Tong University (top 10% in SJTU) 2015

HONOR AND AWARD

- 3th Prize in "HUAWEI Cup" The 16th China Post-Graduate Mathematical Contest in Modeling 2019
- Excellent assistant (Student Employment Center of SJTU) 2019
- Design Excellent Award - 1st Place (1/70 in Mechanical Engineering Department) 2018
- 1st Prize RoboMaster in eastern China 2017

Selected Skill

Programming : Python, HTML/CSS, Java, JavaScript, MySQL, C/C++
Software : MATLAB, LabVIEW, IntelliJ IDEA, Solidworks, Comsol, Adam
Language : Mandarin(Native), English(Fluent)