YU (JOE) ZHANG

Oakville, ON, Canada, L6M 4N3
Tel: 613-252-9290 Email: yuzhang8@yahoo.com
www.linkedin.com/in/yuzhang8
https://ditto2003.github.io/

HIGHLIGHTS OF SKILLS

- Currently working on fault detection in an electric motor project using AI methodologies, revealing underlying abnormal signal patterns.
- Diverse working experience in Aerospace and Automotive industries.
- Developed a broad range of skills in multidiscipline of both traditional machine and state-of-the-art AI techniques.
- Previously worked on an object detection project, focusing on self-driving vehicles in adverse weather conditions.
- Research interest focuses on exploiting Transformer networks for classification and prediction tasks.
- Hands-on experience with machine learning and deep learning algorithms, like PCA, SVM, CNN, LSTM, etc. and AI tools, such as TensorFlow, Scikit-learn, google cloud platform, Jupiter, NumPy, etc.
- Knowledgeable with data acquisition, data pre-processing, model construction, etc.
- Python 3 years | Matlab 5 years | Labview 1 year | CATIA/ENOVIA 7 years
- Permanent Residence status

EDUCATION

Ph.D. of **Mechanical Engineering** Jan. 2022-Present
McMaster University, Hamilton, Canada
- Focus on fault detection and diagnosis.

Master of Applied Science in **Aerospace Engineering** 2016-Feb. 2019
Carleton University, Ottawa, Canada

Master of Engineering in **Fluid Machine and Engineering** 2006-2008
Northeastern University, Shenyang, China

Bachelor of Engineering in **Mechanical Design, Manufacturing and Automation** 2002-2006
Sichuan University, Chengdu, China

PROFESSIONAL EXPERIENCE

Product Engineer Oct. 2020-April. 2021
Shenyang Amphenol Sunpool Automotive Electronics Co., Ltd, Shenyang, China

- Responsible for the automotive antenna structure design and development, sample trial production and composing APQP documents, like special characteristic list, sub-supplier material list, DFMEA etc.
- Get familiar with the vehicle development milestones, like ET, PT, SOP, DVP etc.

Industrial Designer May. 2019-Dec. 2019

Joyolight Group Inc., Mississauga, Ontario, Canada

- Provide technical support for other departments, including shop drawing for sales, manufacturing drawing for manufactures, installation drawing for customers, etc.

Design leader of System Installation Sept. 2008-Jul. 2016

Shenyang Aircraft Commercial Company, Aviation Industry Corporation of China (AVIC)

- Led a group of 12 engineers to work on the system installation of C-Series, and released all data on time and to specifications,
- Designed and optimized support structures for system components and tubes while adhering to engineering principles and techniques, like interface, manufacture, tolerance, electrical bonding, etc.

PUBLICATIONS

- **Y. Zhang**, Y. Huangfu, Y. Ziada and S. Habibi, "A Hybrid Fault Detection Method for Hairpin Windings Integrating Physics Model and Machine Learning," in *IEEE Access*, 2024.
- **Y. Zhang**, Y. Huangfu, Y. Ziada and S. Habibi, "Efficient Hairpin Winding Fault Detection Using Impedance Measurements," in *IEEE Access*, 2023.
- **Y. Zhang**, J. Liu, and H. Hanachi, " An Enhanced Joint Indicator for Starter Failure Diagnostics in Auxiliary Power Unit," in *Journal of Prognostics and Health Management*, 2023.
- **Y. Zhang**, H. Hanachi, J. Liu, and C. Yang, "Model-based degradation inference for Auxiliary Power Unit start system," *Engineering Failure Analysis*, Sept 2020.
- **Y. Zhang**, J. Liu, and H. Hanachi, "Physics-based Model and Neural Network Model for Monitoring Starter Degradation of APU," in *2018 IEEE International Conference on Prognostics and Health Management*, 2018.

HONORS / AWARDS

- Ontario Graduate Scholarship (OGS), McMaster Univeristy 2024-2025
- The Stelco Graduate Bursaries, $3000, McMaster Univeristy 2024
- Graduate Scholarship, Carleton University 2017-2019

VOLUNTEERS

- Transportation Specialist, Ottawa Dragonboat Festival, Ottawa, ON Jun. 2017