MATTHEW PEIZHI YAN

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EDUCATION

- **Lakehead University** (2018 - 2020) GPA: 4.0 / 4.0 (Average Grade: 98%)
Thunder Bay, Ontario, Canada — ***M.Sc.*** *in Computer Science (Governor-General's Gold Medal)*
Supervisor: Dr. Salimur Choudhury
Co-supervisor: Dr. Shan Du

- **Algoma University** (2016-2018) GPA: 4.0 / 4.0 (Average Grade: 96%)
Sault Ste. Marie, Ontario, Canada — ***B.Sc.*** *in Computer Science (Honors, Cum Laude)*
Thesis supervisors: Dr. Yi Feng, Dr. George Townsend

- **University of Jinan** (2014-2019), Jinan, Shandong, China — ***B.Eng.*** *in Computer Science*

TEACHING EXPERIENCE

Lakehead University

- **Tutor:** *Deep Learning (2020 Winter),* graduate-level course, 83 students
- **Tutor:** *Computer Vision (2019 Fall),* graduate-level course, 70 students
- **Guest Lecturer:** *Deep Learning (2019 Spring),* graduate-level course, 59 students
- **Guest Lecturer:** *Optimization Method (2019 Spring),* graduate-level course, 19 students
- **Tutor:** *Assembly Language (2019 Winter),* undergraduate-level course, 38 students
- **Tutor**: *Data Base Management Systems (2018 Fall),* undergraduate-level course, 25 students

ACADEMIC EXPERIENCE

- **Reviewer**, IEEE Transactions on Circuits and Systems for Video Technology
- **Reviewer**, Canadian Journal of Electrical and Computer Engineering
- **Graduate Assistant**, Lakehead University (2018-2020)
- **Research Assistant** (on artificial neural networks) at Brain Computer Interface lab, Algoma University, Canada (2017-2018)
- **Vice-minister** of Software Development Sector of Turing Computer Association, University of Jinan, China (2015-2016)

PUBLICATIONS

Journal

1. **Yan P.**, Al-Turjman F., Al-Oqily I., & Choudhury S. "An Energy-Efficient Topology Control Algorithm for Optimizing the Lifetime of Wireless Ad-hoc IoT Networks in 5G and B5G". *Computer Communications.* Elsevier. (SCI Journal, Impact Factor: 3.066)
2. **Yan P.**, Choudhury S., & Wei R. "A Machine Learning Auxiliary Approach for the Distributed Dense RFID Readers Arrangement Algorithm". *Intelligent and Cognitive Techniques for Internet of Things, IEEE Access Journal,* 2020. (SCI Journal, Impact Factor: 4.098)
3. **Yan, P.**, & Feng, Y. "Using Convolution and Deep Learning in Gomoku Game Artificial Intelligence". *Modern Physics Letters A*, 28(03), 2018. (SCI Journal, Impact Factor: 1.367)

Conference

4. **Yan, P.**, & Choudhury, S., "Optimizing Mobile Edge Computing Multi-Level Task Offloading via Deep Reinforcement Learning". In *ICC 2020-2020 IEEE International Conference on Communications (ICC)*. IEEE. 2020.
5. Emu M., **Yan P**., Choudhury S., "Latency Aware VNF Deployment at Edge Devices for IoT Services: An Artificial Neural Network Based Approach". In *ICC 2020-2020 IEEE International Conference on Communications (ICC) on Convergent IoT*. IEEE. 2020
6. **Yan, P.**, Choudhury, S., & Wei, R. "A Distributed Graph-Based Dense RFID Readers Arrangement Algorithm". In *ICC 2019-2019 IEEE International Conference on Communications (ICC)* (pp. 1-6). IEEE. May, 2019.
7. **Yan, P.**, & Feng, Y. "A Hybrid Gomoku Deep Learning Artificial Intelligence". In *Proceedings of the 2018 Artificial Intelligence and Cloud Computing Conference* (pp. 48-52). ACM. December, 2018.

Accepted

8. Tassone, J., **Yan, P.**, Simpson, M., Mendhe, C., Mago, V., & Choudhury, S., "Utilizing Twitter Data Analysis and Deep Learning to Identify Drug Use". Accepted by the *International Conference on Intelligent Biology and Medicine (ICIBM 2020).*

Submitted

9. **Yan, P.**, Jiang, T., Du, S., & Liu, Y., "A Distortion Type Prediction Based Full-Reference Image Quality Assessment Scheme", submitted to *International Journal of Pattern Recognition and Artificial Intelligence.*
10. Liu, Y., Liu, M., **Yan, P.**, Lu, W., Liu, R., & Du, S., "No-reference stereoscopic image quality assessment by combining global and local features", submitted to *IEEE Transactions on Circuits and Systems for Video Technology*.
11. Paul, A., **Yan, P.**, Du, S., Yang, Y., & Wu , J., "Online Sequential Learning with Non-Iterative Strategy for Dimension Reduction and Image Classification", submitted to *IEEE Transactions on Systems, Man and Cybernetics.*
12. **Yan, P.**, & Choudhury, S., "Deep Q-Learning Enabled Joint Optimization of Mobile Edge Computing Multi-Level Task Offloading", submitted to *IEEE Transactions on Sustainable Computing*.

AWARDS AND HONORS

Canada

- (2020) **The Governor-General's Gold Medal Award**
- (2018) **Vector Scholarship in Artificial Intelligence (VSAI)** by Vector Institute, $17,500

Lakehead University

- (2019) **International Match Fund Award**
- (2019) **Faculty of Science and Environmental Studies Award**
- (2018, 2019) **Graduate Assistantship**
- (2018, 2019) **Faculty Research Award**
- (2018) **Lakehead University Entrance Award**
- (2018) **Lakehead University International Entrance Award**
- (2018) **Faculty of Science and Environmental Studies Entrance Award**

PROJECTS

Research projects

- (Ongoing) **Deep Learning Satellite Image Lichen Mapping** (funded by the Natural Sciences and Engineering Research Council of Canada)
- (2019) **Deep Learning 4X Video Super-Resolution** (https://www.youtube.com/watch?v=W8TxAPylE0Y)
- (2018-2019) **Utilizing Twitter Data Analysis and Deep Learning to Identify Drug Use**
- (2018) **Deep Learning Portrait Mode Photo Generator**
- (2018) **Distributed Dense RFID Readers Arrangement Algorithm**
- (2017-2018) Undergraduate Thesis: **Using Machine Learning in Gomoku Game**

Other projects

- (Ongoing) **BPPV Mobile App** for healthcare training (Android and iOS)
- (2019) Open-source web-based **Painting Application** (https://peizhiyan.github.io/www/draw.html)
- (2019) Tensorflow implementation of **Extreme Learning Autoencoder** (https://github.com/PeizhiYan/ELA)
- (2018) **Convolution-Based Gomoku Game Evaluation Algorithm** (https://peizhiyan.github.io/js_codes/gomoku/index.html)

SUPERVISED STUDENTS

- **Md Nafis Abedin** (Co-op undergraduate student at University of Waterloo, 2020 summer intern)
  Project: Developing an interactive web user interface for the satellite image lichen mapping project.

SKILLS

- **Programming languages:** Python, Java, C++, Swift, C, JavaScript, HTML5, CSS3
- **Open source libraries:** OpenCV, Tensorflow, Keras, SciPy, Gurobi, Paper.js
- **Others:** Latex, Xcode IDE, Linux OS, Matlab, Adobe Photoshop, Adobe Illustrator, SLURM workload manager
- **Hobbies:** visual art**,** drawing oil painting, 3D object modeling/sculpturing