Matthew Peizhi YaN

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# Education

* **The University of British Columbia** (2021 - Present)

Vancouver, British Columbia, Canada — ***Ph.D. Student*** *in Electrical and Computer Engineering*

GPA: 4.0 / 4.0 (Average Grade: 95%, Letter: A+)

* **Lakehead University** (2018 – 2020)

Thunder Bay, Ontario, Canada — ***M.Sc.*** *in Computer Science*

GPA: 4.0 / 4.0 (Average Grade: 98%, Letter: A+)

Distinction: Governor-General’sGold Medal

* **Algoma University** (2016 – 2018)

Sault Ste. Marie, Ontario, Canada — ***B.Sc.*** *in Computer Science*

GPA: 4.0 / 4.0 (Average Grade: 96%, Letter: A+)

Distinction: Honors, Cum Laude

* **University of Jinan** (2014 – 2019)

Jinan, Shandong, China — ***B.Eng.*** *in Computer Science*

# Research and Work Experience

**Huawei Technologies Canada**

* **Associate Engineer, Research Intern** (Sep. 2021 - )

**The University of British Columbia**

* **Research Assistant** (Jan. 2021 - Present)

**Lakehead University**

* **Research Assistant** (Sep. 2018 – May. 2020)
* **Graduate Teaching Assistant** (Sep. 2018 – May. 2020)

**Algoma University, BCI-lab**

* **Research Assistant** (2017 - 2018)

# Teaching Experience

**Lakehead University**

* **Guest Lecturer (9 hours):** *Optimization Method (2020 Spring),* graduate-level course, 29 students
* **Guest Lecturer (6 hours):** *Deep Learning (2020 Winter),* graduate-level course, 83 students
* **Guest Lecturer (6 hours):** *Computer Vision (2019 Fall),* graduate-level course, 70 students
* **Guest Lecturer (9 hours):** *Deep Learning (2019 Spring),* graduate-level course, 59 students
* **Guest Lecturer (6 hours):** *Optimization Method (2019 Spring),* graduate-level course, 19 students
* **Tutor:** [*Assembly*](http://timetable.lakeheadu.ca/scripts/return.course.description.php?c=COMP&cn=3413) *Language (2019 Winter),* undergraduate-level course, 38 students
* **Tutor**: [*Data Base Management Systems*](http://timetable.lakeheadu.ca/scripts/return.course.description.php?c=COMP&cn=3413) *(2018 Fall),* undergraduate-level course, 25 students

# Academic services

**Journal Reviewer**

* **Elsevier** *Neurocomputing* (10 reviews submitted)
* **IEEE** *Transactions on Cybernetics* (1 review submitted)
* **IEEE** *Access Journal* (1 review submitted)
* **IEEE** *Transactions on Circuits and Systems for Video Technology* (5 reviews submitted)
* **IEEE** *Canadian Journal of Electrical and Computer Engineering* (4 reviews submitted)

**Conference Reviewer**

* 2021, 2022 IEEE International Conference on Image Processing
* 2020 The 17th IEEE International Conference on Ubiquitous Intelligence and Computing

**Other**

* **Vice President** of Software Development Sector of Turing Computer Association, University of Jinan, China (2015-2016)

# Publication

Citations: 54, h-index: 5, i10-index: 2 (statistics are from Google Scholar)

**Journal**

1. **Yan, P.**, & Choudhury, S., “Deep Q-Learning Enabled Joint Optimization of Mobile Edge Computing Multi-Level Task Offloading”, accepted and to be appear in *Elsevier Computer Communications*.(SCI Journal, IF: 3.923)
2. **Yan, P. C**, Paul, A. **C**, Yang, Y., Zhang, H., Du, S & Wu, J., “Online Sequential Learning with Non-Iterative Strategy for Dimension Reduction and Image Classification”, *Springer Neural Computing and Applications.* (SCI Journal, IF: 6.106)
3. Tassone, J., **Yan, P.**, Simpson, M., Mendhe, C., Mago, V., & Choudhury, S., “Utilizing Twitter Data Analysis and Deep Learning to Identify Drug Use”. *BMC Medical Informatics and Decision Making*, *20*(11), 1-15. (SCI Journal, IF: 3.546)
4. **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, IF: 3.923)
5. **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, IF: 5.456)
6. **Yan, P.**, & Feng, Y. “Using Convolution and Deep Learning in Gomoku Game Artificial Intelligence”. *Modern Physics Letters A*, 28(03), 2018. (SCI Journal, IF: 1.367)

**Conference**

1. **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.
2. 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
3. **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.
4. **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.

\* indicates the presenter.

**C** indicates co-first authorship.

# Awards and Honors

**Canada**

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

**University of British Columbia**

* (2021)Faculty of Applied Science Graduate Award
* (2021) President's Academic Excellence Initiative PhD Award
* (2021)International Tuition Award

**Lakehead University**

* (2019)International Match Fund Award
* (2019) CUPE Professional Development Bursary
* (2019) Faculty of Science and Environmental Studies Award
* (2018, 2019) Graduate Assistantship
* (2018, 2019) Faculty Research Award
* (2018) Graduate Travel Award
* (2018) Lakehead University Entrance Award
* (2018) Lakehead University International Entrance Award
* (2018) Faculty of Science and Environmental Studies Entrance Award

# Project

**Research**

* (2019-2020) **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**

* (2021, Ongoing) **ZenFlow** Open-Source Machine Learning Library (<https://github.com/PeizhiYan/zenflow>)
* (2021) Light-Field Image Refocusing User Interface (<https://www.youtube.com/watch?v=pRxXQcuVQSs&t=9s>)
* (2019) BPPV Mobile App for Healthcare Practice (Android and iOS)
* (2019) Open-Source **Whiteboard Web App.** (<https://peizhiyan.github.io/www/draw.html>)
* (2019) Tensorflow Implementation of Extreme Learning Autoencoder (<https://github.com/PeizhiYan/ELA>)
* (2018)Convolution-Based **Gomoku Game AI** (<https://peizhiyan.github.io/js_codes/gomoku/index.html>)

# Supervised Student

* **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.

# Skill

* **Programming Languages:** Python, Java, C++, C, JavaScript, HTML5, CSS3
* **Open-Source Libraries:** Tensorflow, PyTorch, Keras, Open3D, OpenCV, Gurobi, Paper.js
* **Others:** LaTeX, Linux, SLURM Workload Manager
* **Hobbies:** Oil Painting, Swimming, Reading

Updated on May. 09, 2022