MATTHEW **PEIZHI YAN**

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EDUCATION

- **The University of British Columbia** (2021 - Present)
  Vancouver, British Columbia, Canada — ***Ph.D. Candidate*** *in Electrical and Computer Engineering*
  Supervisors: Dr. Rabab Ward, Dr. Shan Du
  GPA: 4.0 / 4.0 (Average Grade: 95%, Letter: A+)
- **Lakehead University** (2018 – 2020)
  Thunder Bay, Ontario, Canada — ***M.Sc.*** *in Computer Science*
  Supervisor: Dr. Salimur Choudhury
  GPA: 4.0 / 4.0 (Average Grade: 98%, Letter: A+)
  Distinction: Governor-General's Gold Medal
- **Algoma University** (2016 – 2018)
  Sault Ste. Marie, Ontario, Canada — ***B.Sc.*** *in Computer Science*
  Supervisors: Dr. Yi Feng, Dr. George Townsend
  GPA: 4.0 / 4.0 (Average Grade: 96%, Letter: A+)
  Distinction: Cum Laude
- **University of Jinan** (2014 – 2019)
  Jinan, Shandong, China — ***B.Eng.*** *in Computer Science*

RESEARCH AND WORK EXPERIENCE

The University of British Columbia
- **Research Assistant** (Jan. 2021 – Present)

Huawei Canada
- **Research Assistant** (Sep. 2021 – May 2022)

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

Algoma University
- **Research Assistant at BCI Lab** (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 Language (2019 Winter),* undergraduate-level course, 38 students
- **Tutor**: *Data Base Management Systems (2018 Fall),* undergraduate-level course, 25 students

ACADEMIC SERVICE

Journal Reviewer

- **Elsevier** *Neurocomputing* (13 reviews)
- **Springer** *Neural Computing and Applications* (1 review)
- **IEEE** *Transactions on Cybernetics* (1 review)
- **IEEE** *Transactions on Circuits and Systems for Video Technology* (12 reviews)
- **IEEE** *Canadian Journal of Electrical and Computer Engineering* (4 reviews)
- **IEEE** *Access* (1 review)

Conference Reviewer

- 2022 Asian Conference on Computer Vision (ACCV)
- 2021 to 2023 IEEE International Conference on Image Processing (ICIP)
- 2020 The 17th IEEE International Conference on Ubiquitous Intelligence and Computing

Other

- **Guest Speaker** at Consortium for Advancement of MRI Education and Research in Africa (2023)
- **Invited Talk** on Machine Learning in 3D Face Modeling for UBC (Okanagan) CS Dept. (2023)
- **Vice President** of Turing Computer Association (S/W Dept.), Univ. of Jinan, China (2015-2016)

PUBLICATION

Citations: 120 h-index: 7 i10-index: 5 (statistics are from Google Scholar)

Journal

1. Liu, W., Hopkins, A. M., **Yan, P.**, Du, S., Luyt, L. G., Li, Y., & Hou, J. (2022). Can machine learning 'transform' peptides/peptidomimetics into small molecules? A case study with ghrelin receptor ligands. *Molecular Diversity*, 1-17. (SCI Journal, IF: 3.364)
2. **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)
3. **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)
4. 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)
5. **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)
6. **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)
7. **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

8. **Yan, P.***, Ward, R., Wang, D., Tang, Q., & Du, S., "Learning Disentangled Features for NeRF-based Face Reconstruction". Accepted by the *International Conference on Image Processing (ICIP)*. 2023.
9. **Yan, P.***, Gregson**,** J., Tang, Q., Ward, R., Xu, Z., & Du, S. "NEO-3DF: Novel Editing-Oriented 3D Face Creation and Reconstruction". In *Proceedings of the Asian Conference on Computer Vision (ACCV)*. 2022.
10. Mehajabin, N., **Yan, P.**, Kaur, S., Song, J., Pourazad, M. T., Wang, Y., ... & Nasiopoulos, P. An Efficient Refocusing Scheme for Camera-Array Captured Light Field Video for Improved Visual Immersiveness. In *Proceedings of the 55th Hawaii International Conference on System Sciences*. 2022
11. **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.

12. 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
13. **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.
14. **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** (Canada’s highest award in graduate level)
- (2018) **Vector Scholarship in Artificial Intelligence (VSAI)** by Vector Institute, $17,500

University of British Columbia

- (2023) ICICS Travel Award
- (2021, 2022, 2023) Graduate Support Initiative (GSI) Award

PROJECT

Research

- (2023) NeRF-based 3D Face Modeling (https://github.com/ubc-3d-vision-lab/StyleMorpheus)
- (2022) 3D Face Creation and Editing (https://peizhiyan.github.io/docs/neo3df/index.html)
- (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) **ZenFlow** Open-Source Machine Learning Demo (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

- **Xiangrui Liu** (master’s student at UBC Okanagan, research assistant, May – Aug. 2023)
  Project: 3D and 3D-aware face modeling.
- **Md Nafis Abedin** (undergraduate student at University of Waterloo, co-op 2020 summer intern)
  Project: Developing an interactive web user interface for the satellite image lichen mapping project.

MENTORED STUDENT

- **Keizo Kato** (undergraduate student at UBC Okanagan, 2023) on his undergraduate thesis.
- **Wenqi Guo** (undergraduate student at UBC Okanagan, 2023) on his undergraduate thesis.

SKILL

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

Updated on Jan. 25, 2024