

WORK HISTORY

Duy Tan University, Institute of Research and Development

Research Assistance

February 2023 – Current

- Research interest includes quantum computing, quantum machine learning and its trainability, and applications in finance sectors.

EDUCATION

Deakin University

Bachelor of Information Technology (Honours)

November 2018 – September 2022

- Recipient of Deakin College Vietnam Excellence Scholarship.
- Recipient of Deakin STEM Scholarship for Bachelor study and Honour program.
- Recipient of Deakin summer scholarship for the project Impact of Barren Plateaus Countermeasures on the Quantum Neural Network Capacity to Learn.
- Majored in Creative Technology.
- Graduated with First Class Honours – Candidate for PhD Program.

PUBLICATIONS

- Cybulski, J.L., Nguyen, T. (In Press) Impact of barren plateaus countermeasures on the quantum neural network capacity to learn. Quantum Inf Process 22, 442 (2023). <https://doi.org/10.1007/s11128-023-04187-8>
- Thanh Nguyen and Jacob L. Cybulski (2023): "Training Variational Quantum Models with Barren Plateaus Mitigation Strategies." In Preparation for journal submission (Advanced Draft)
- Thanh Nguyen and H.L. Thi (2024): Variational Quantum Algorithms in Finance. In: Yang, X.S., Sherratt, S., Dey, N., Joshi, A. (eds) Proceedings of Ninth International Congress on Information and Communication Technology. ICICT 2024 2024. Lecture Notes in Networks and Systems, vol 1002. Springer, Singapore. https://doi.org/10.1007/978-981-97-3299-9_2
- Thanh Nguyen and H.L. Thi (2024): Variational Quantum Algorithms in Anomaly Detection, Fraud Indicator Identification, Credit Scoring, and Stock Price Prediction. In: Yang, X.S., Sherratt, S., Dey, N., Joshi, A. (eds) Proceedings of Ninth International Congress on Information and Communication Technology. ICICT 2024 2024. Lecture Notes in Networks and Systems, vol 1003. Springer, Singapore. https://doi.org/10.1007/978-981-97-3302-6_39

CONFERENCES and SEMINA PRESENTATIONS

- Thanh Nguyen and Jacob L. Cybulski (2023): "Investigation of Barren Plateaus in Quantum Neural Network Development." Presented at 10th International Congress on Industrial and Applied Mathematics (ICIAM 2023), Waseda University, Tokyo, Japan, August 20-25, 2023.
- Nguyen Ngo Cong Thanh and Hiep. L. Thi, "Variational Quantum Algorithms in Finance - A Review." Presented at the 9th International Congress on Information and Communication Technology, London, United Kingdom, 19-22 Feb, 2024.
- Jacob Cybulski and Thanh Nguyen, "Investigation of Barren Plateaus Mitigation Strategies in the Development of Variational Quantum Models: An Overview of Problems and Solutions", Warsaw School of Economics, Poland.
- Jacob Cybulski and Thanh Nguyen, "Strategies for dealing with barren plateaus in training quantum machine learning models", Melbourne Quantum Summit, Ormond College, The University of Melbourne, Melbourne, Australia.

PROJECTS

- (2021) IBM Quantum Challenge Fall
 - Advanced achievement award granted by IBMQ, at <https://www.credly.com/badges/84ff1b26-7fc2-47f3-bb26-d9a28dcc6079>
- (2022 – Current) The Impact of Barren Plateaus Mitigation Strategy on the Quantum Neural Network Capacity to Learn
 - Funded by Deakin University as a Summer Project Scholarship, and STEM scholarship,
 - One published paper,
 - One manuscript prepared for journal publication,
 - One Poster Presentation at the 10th International Congress on Industrial and Applied Mathematics.
- (2023 – Current) Variational Quantum Algorithms in Finance.
 - Two manuscripts accepted for Conference Publication.
 - One Conference Publication.