Yitkhee Wong

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Summary

PhD Candidate specialising in Natural Language Processing, Deep Learning, and Computational Biology. Proven ability in developing and fine-tuning machine learning models for complex tasks, including machine translation and sentiment analysis on low-resource, code-switched data. Actively seeking a Research Internship to apply advanced modelling skills to solve challenging real-world problems.

Language

- Malay: Proficient
- English: Proficient (Professional Working Proficiency)
- Chinese (Mandarin): Native

Skill Highlight

- Languages: Python, Java, C++, PHP, SQL
- ML/NLP Frameworks: PyTorch, TensorFlow, Scikit-learn, Hugging Face, Pandas, NumPy
- Web & Database: HTML, JavaScript, MySQL, Oracle
- Software & Tools: Weka, Git, Docker

Research & Project Experience

Neural Machine Translation for Malay-English Code-Switching
Doctoral Research Project, Universiti Teknologi Malaysia | Oct 2022 - Present

- Developing robust Neural Machine Translation (NMT) models for languages with limited data, with a special focus on handling informal text and linguistic phenomena like code-switching.
- Curated and pre-processed a specialised corpus of over 100,000 sentences from Malaysian social media to train and evaluate models.
- Investigating how pre-trained language models can be adapted to understand and process mixed-language data common in multilingual communities.
- Exploring and developing novel neural network architectures, particularly RNN-based models, for linguistic data analysis.
- Technologies: Python, PyTorch, Pandas.

Smart Digital Community
Research Project, Universiti Teknologi Malaysia | Aug 2022 - Oct 2022

- Developed a Python-based API to automate data extraction and establish a seamless connection between disparate research databases, significantly improving data accessibility for the team.
- Performed quantitative bibliometric analysis on scientific literature using R (biblioshiny) to identify key research trends, citation impact, and publication metrics.
- Conducted in-depth analysis of learning analytic systems, summarising and comparing their underlying technologies and data architectures to inform future research.

Education

Doctor of Philosophy in Computer Science
Universiti Teknologi Malaysia

Oct 2022 - Present

- Investigating the challenges of Neural Machine Translation (NMT) when handling Malay-English code-switched text sourced from Malaysian social media.
- Developing novel data pre-processing techniques and model architectures to improve translation quality and robustness for informal, low-resource languages.
- Aiming to create a benchmark dataset and establish new evaluation metrics for code-switched machine translation, contributing to the field of computational linguistics.

Bachelor of Computer Science in Bioinformatics
Universiti Teknologi Malaysia

Sep 2018 - Aug 2022

- Graduation with Deans Award: 3.98 CGPA
- Utilize Computer Science techniques in managing and analysing biological data, problems and developing and discovering new findings in the field of biology.

Sijil Tinggi Persekolahan Malaysia (STPM)
SMK Sultan Ibrahim

Apr 2016 - Dec 2017

- Graduated in Bio-Chem Science Stream Student
- CGPA: 3.64

Working Experience

Part Time Lecturer
Universiti Teknologi Malaysia (UTM), School of Diploma Studies (SPACE)

Aug 2024 - Dec 2024

- Instructed Diploma students in the Programming Fundamentals (DSPD1573) course.
- Developed and administered all course materials, assignments, and examinations.

Research Assistant
Universiti Teknologi Malaysia

Aug 2022- Oct 2022

- Assist in the academic research paper publishing
- Assist in the exploration of existing learning analytic systems, including summarising the technologies and intelligent data storage structure involved

Internship in Software Engineer
SIM IT SDN BHD

Aug 2021 - Feb 2022

- Work closely with senior developers to develop functions for new increment module.
- Comes up with customized features for clients.
- Involves in system development and bugfix.

Research Grant

PayNet (National Level) - Shark Seed Fund Cashless Campus 3.0.
Team, Leader - RM 85,000

PayNet (National Level) - Shark Seed Fund Cashless Campus 4.0.
Team Leader - RM 65,000

Award & Contribution

2022

3rd Prize Winner, TheGreatLab Grand Design Challenge
- Competed against numerous teams in a national-level challenge focused on innovative engineering and technology design.
- Awarded for developing a novel solution that demonstrated technical complexity, creativity, and practical application.

Dean's Award, Universiti Teknologi Malaysia (UTM)
- Conferred upon graduation for achieving consistent academic excellence and maintaining a position in the top percentile of the faculty.

2024

1st Runner Up (2nd Place), Paynet Cashless Campus 3.0
- Secured second place in a national fintech challenge by Paynet for designing an innovative campus digital payment solution.
- Co-developed and pitched a comprehensive solution for a campus-wide digital payment ecosystem, which was recognised for its technical innovation, business viability, and user-centric design.
- Awarded a team cash prize of RM 50,000 for the project's high commercial potential and innovation.

2025

Second Prize, 2025 China International College Students' Innovation Competition (Southeast Asia Division)
- Awarded second place in the Southeast Asia finals of a major international innovation challenge for a project utilizing advanced technology.
- Secured a RM 5,000 prize in recognition of the project's creativity and practical application.

Publication

Y. K. Wong, W. H. Chan, H. W. Nies and K. A. -L. Moorthy, "Multi-stage Feature Selection in Identifying Potential Biomarkers for Cancer Classification," 2022 2nd International Conference on Intelligent Cybernetics Technology & Applications (ICICyTA), Bandung, Indonesia, 2022, pp. 6-11, doi: 10.1109/ICICyTA57421.2022.10037807.

W. N. Wong, Y. K. Wong and W. H. Chan, "Classification of Gastrointestinal Diseases Using Deep Transfer Learning," 2022 2nd International Conference on Intelligent Cybernetics Technology & Applications (ICICyTA), Bandung, Indonesia, 2022, pp. 156-161, doi: 10.1109/ICICyTA57421.2022.10038047.

I. T. C. Wong, N. A. A. Kadir, Y. K. Wong, F. K. C. Harun and W. H. Chan, "Comparative Study of Neural Network-based Methods in Classification of ECG," 2022 2nd International Conference on Intelligent Cybernetics Technology & Applications (ICICyTA), Bandung, Indonesia, 2022, pp. 17-22, doi: 10.1109/ICICyTA57421.2022.10038090.

Wong, Y.K., Huspi, S.H. (2024). A Conceptual Framework for Malay-English Code-Switched Neural Machine Translation. In: Saeed, F., Mohammed, F., Fazea, Y. (eds) Advances in Intelligent Computing Techniques and Applications. IRICT 2023. Lecture Notes on Data Engineering and Communications Technologies, vol 211. Springer, Cham. https://doi.org/10.1007/978-3-031-59707-7_5 (Scopus Indexed)

Certifications