

Tan Yee Fan

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EDUCATION

Monash University

Doctor of Philosophy (Ph.D.) in Information Technology

Supervisors: Assoc. Prof. Ting Chee Ming, Dr. Fuad Noman, Prof. Raphael Phan

Selangor, Malaysia

April 2022 – Present

Multimedia University

Bachelor of Computer Science (Hons) Artificial Intelligence

CGPA: 3.97 / 4.0

Melaka, Malaysia

November 2019 – January 2022

Multimedia University

Diploma in Information Technology

CGPA: 4.0 / 4.0

Melaka, Malaysia

July 2017 – October 2019

EXPERIENCE

Research Assistant

Monash University

November – December 2021

MY

- Conducted a research on predicting individual differences in behavior based on brain connectivity networks under the supervision of Assoc. Prof. Ting Chee Ming
- Conducted the literature review and experimental studies using CNN for brain disorders classification

Undergraduate Research Assistant

Multimedia University

February – August 2021

Melaka, MY

- Conducted a research on predictive modelling for Digital Signage Advertising under the supervision of Dr. Ong Lee Yeng and Dr. Leow Meng Chew
- Investigated different models for time-series forecasting, including Statistical, AI, and Hybrid models
- Published a review paper, which introduced seven different models for dynamic pricing, proposed a framework for optimal model selection based on the data characteristics analysis

Research Assistant

Multimedia University

October – November 2020

Melaka, MY

- Worked as a team under the supervision of Dr. Ong Lee Yeng and Dr. Leow Meng Chew
- Applied web crawling and scraping techniques to gather useful data for experimental study
- Designed the experiments which applied a rule-based system for DOOH dynamic pricing, by considering the importance of each independent variable using Machine Learning models

Peer Tutor

Multimedia University

November 2018 – March 2019

Melaka, MY

- Held the tutor position for the subject of Mathematical Technique
- In charge of preparing relevant materials and contents to conduct the tutorial section for the subject

RESEARCH AND DEVELOPMENTAL PROJECTS

Automatic Handwritten Text Recognition for Medical Application | Deep Learning

June 2020 – September 2021

- Final Year Project, supervised by Assoc. Prof. Dr. Tee Connie and Assoc. Prof. Dr. Goh Kah Ong Michael
- Data collection: A different set of receipt templates were distributed to the public in acquiring different handwritten styles, obtained a sample size of 500
- Applied various data pre-processing methods before training, including skew correction, line removal, line segmentation, and data augmentation
- Proposed a framework to tackle the following problems: printed/handwritten text identification, OCR and HCR models, information classification model
- Involved models: YOLOv5, Transformer, CNN, ResNet, LSTM, RNN, Bi-LSTM/RNN, NER
- The proposed ResNet-101T has obtained an outstanding performance, with an WER and CER of 9.29 and 6.12

Explainable Health Prediction with Transfer Learning | Deep Learning

June – November 2020

- A proposed research with aims to distinguish between healthy and sick faces, and to obtain explanation from black-box models, supervised by Assoc. Prof. Dr. Tee Connie
- Various experiments were investigated to tackle the problems of insufficient dataset, including data augmentation, GAN, and Transfer Learning
- A VGGFace model is trained, by applying transfer learning, achieved an accuracy of 0.97 in classifying the images
- Applied various Explainable AI (XAI) techniques: LIME, XAI, IG to get model's explanation in making a decision, each techniques provides a reasonable explanation in highlighting the corresponding regions

AWS Hackathon Build On Malaysia (Finalist Top 50) | Python, Git, AWS

June – September 2020

- A hackathon held by Amazon Web Services, our proposal was selected as Top 50 Finalist
- Worked in a team to build a smart cane prototype for visually impaired group by integrating various AWS services, considering the safety and practicality from different aspects
- Applied AWS services for tasks such as Object Recognition, Voice Recognition, Emergency Message, and others

Funtastic Event - Web-based Application | HTML/CSS, JS, PHP, MySQL

April – November 2019

- Final Year Project of diploma, a full stack web-based application to enable users to hold an event through the platform
- Grade received: A

PUBLICATION**A Pipeline Approach to Context-Aware Handwritten Text Recognition**

Y. F. Tan., T. Connie, M. K. O. Goh., & A. B. J. T. (2022). A Pipeline Approach to Context-Aware Handwritten Text Recognition. Applied Sciences, 12(4), 1870. <https://doi.org/10.3390/app12041870>.

Explainable Health Prediction based on Facial Features using Transfer Learning

T. Connie, Y.F. Tan, M.K.O. Goh, H.W. Hon, Z. Kadim, L.P. Wong, Explainable health prediction from facial features with transfer learning, Journal of Intelligent & Fuzzy Systems. Preprint (2021) 1–13. <https://doi.org/10.3233/JIFS-211737>.

Exploring Time-Series Forecasting Models for Dynamic Pricing in Digital Signage Advertising

Y.-F. Tan, L.-Y. Ong, M.-C. Leow, Y.-X. Goh, Exploring Time-Series Forecasting Models for Dynamic Pricing in Digital Signage Advertising, Future Internet. 13 (2021). <https://doi.org/10.3390/fi13100241>.

TECHNICAL SKILLS

Languages: Python, C/C++, Java, HTML/CSS, JavaScript, PHP, Laravel, MySQL, CLIPS, LISP, Prolog, LaTeX

Developer Tools: Git, VS Code, Google Cloud Platform, Amazon Web Services

Operating System: Mac, Window

Office and Multimedia Tools: Microsoft Office, Adobe Illustrator, Adobe Premiere Pro

Linguistic: English, Mandarin, Bahasa Malaysia

VOLUNTEER EXPERIENCE / LEADERSHIP**Orientation Series, CLS | Assistant Director, Creative and Design Division**

January – September 2019

- In charge of multimedia designs for publicity in MMU, to promote the event held by CLS
- Designed the member card of CLS for year 2019, with more than 1000 members registered

Chinese Language Society | Director, Activity of Recreational Division

January – November 2018

- Led a group comprised of approximately 30 people to hold an event in the campus
- In charge of tasks distribution and roles assignment to get works done with a higher efficiency

AWARD / CERTIFICATION

Dean List Award: Received award in degree for five semesters and in diploma for six semesters at Multimedia University

Best Diploma Student in Information Technology: Received full scholarship for Bachelor Degree Studies

Huawei Certification: HCIA-AI

Data Science 360: A certification program from LEAD

REFERENCES**Assoc. Prof. Dr. Tee Connie**

Lecturer, FYP Supervisor,
FIST, Multimedia University.
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Dr. Ong Lee Yeng

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FIST, Multimedia University.
+606-2523761
lyong@mmu.edu.my

Dr. Lim Kian Ming

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FIST, Multimedia University.
+606-2523066
kmlim@mmu.edu.my