

ZHI QIN TAN

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EDUCATION

King's College London

PhD in Dental and Health Science Research

- Expected to finish in April 2027

London, United Kingdom

Oct 2024 - Apr 2027 (Expected)

University of Surrey

PhD in Computer Science

- Transferred to King's College London

Guildford, United Kingdom

Apr 2023 - Sep 2024

Universiti Malaya

B.S. in Computer Science (Artificial Intelligence)

- CGPA: **3.96/4.00** (First Class Honours with Distinction)
- Held executive roles & won national-level programming competitions (see Awards Highlights & Community Service)

Kuala Lumpur, Malaysia

Sep 2017 - Mar 2021

IELTS Academic

Overall Score: 8.0/9.0

14th August 2022

Malacca Matriculation College

Module 1 (Science)

- CGPA: **4.00/4.00**
- Major: Mathematics, Physics, Chemistry, Biology

Malacca, Malaysia

Jun 2016 - Jun 2017

PUBLICATIONS

1. **Post-pandemic tourism forecasting with ensemble RNN**
Zhi Qin Tan, Yunpeng Li.
Annals of Tourism Research, vol. 116, pp. 104099, Jan. 2026 [[doi](#)]
2. **Caries detection in primary molars with bitewing radiographs through deep learning based-object detectors**
Zhi Qin Tan, Ilana Felix Pinho, Ryan Banks, Xiongjie Chen, Laura Regina Antunes Pontes, Mariana Minatel Braga, Fausto Medeiros Mendes, Yunpeng Li.
Caries Research, Dec. 2025 [[doi](#)]
3. **U-Mamba2: Scaling state space models for dental anatomy segmentation in CBCT**
Zhi Qin Tan, Xiatian Zhu, Owen Addison, Yunpeng Li.
MICCAI 2025, South Korea, Sep. 2025 [[arXiv](#)]
4. **U-Mamba2-SSL for Semi-Supervised Tooth and Pulp Segmentation in CBCT**
Zhi Qin Tan, Xiatian Zhu, Owen Addison, Yunpeng Li.
MICCAI 2025, South Korea, Sep. 2025 [[arXiv](#)]
5. **Text in the dark: Extremely low-light text image enhancement**
Che-Tsung Lin, Chun Chet Ng, **Zhi Qin Tan**, Wan Jun Nah, Xinyu Wang, Jie Long Kew, Pohao Hsu, Shang Hong Lai, Chee Seng Chan, Christopher Zach.
Signal Processing: Image Communication, vol. 130, pp. 117222, Jan. 2025 [[doi](#)]
6. **Bayesian Detector Combination for Object Detection with Crowdsourced Annotations**
Zhi Qin Tan, Olga Isupova, Gustavo Carneiro, Xiatian Zhu, Yunpeng Li.
ECCV 2024, Milan, Italy, Oct. 2024 [[doi](#)]
7. **When IC meets text: Towards a rich annotated integrated circuit text dataset**
Chun Chet Ng, Che-Tsung Lin, **Zhi Qin Tan**, Xinyu Wang, Jie Long Kew, Chee Seng Chan, Christopher Zach.
Pattern Recognition, vol. 127, pp. 110—124, Mar. 2024 [[doi](#)]
8. **Rethinking Long-Tailed Visual Recognition with Dynamic Probability Smoothing and Frequency Weighted Focusing**
Wan Jun Nah, Chun Chet Ng, Che-Tsung Lin, Yeong Khang Lee, Jie Long Kew, **Zhi Qin Tan**, Chee Seng Chan, Christopher

Zach, Shang-Hong Lai.

IEEE ICIP 2023, Kuala Lumpur, Malaysia, Oct. 2023 [[Proceedings](#)]

9. **Protecting Recurrent Neural Network by Embedding Keys**

Zhi Qin Tan, Hao Shan Wong, Chee Seng Chan.

In [Digital Watermarking for Machine Learning Model: Techniques, Protocols and Applications](#), Singapore: Springer, 2022, pp. 167—189.

10. **An Embarrassingly Simple Approach for Intellectual Property Rights Protection on Recurrent Neural Networks**

Zhi Qin Tan, Hao Shan Wong, Chee Seng Chan.

AACL-IJCNLP 2022, Online, Taiwan, Nov. 2022 [[Proceedings](#)]

ACADEMIC SERVICE

➤ **Instructor and Organizer | Python Workshop for Beginners (2018)**

- Organised a one-time Python workshop to teach beginners from **various academic backgrounds** the **basics of programming** with Python.
- **Prepared teaching material** and conducted the workshop.

➤ **Reviewer:**

- AACL-IJCNLP (2022)
- TPAMI
- Neurocomputing
- ACL (2024 - 2025)
- Annals of Tourism Research
- Nature Biomedical Engineering
- Caries Research

➤ Presented my first research project [2] at Bellairs Workshop on Machine Learning and Statistical Signal Processing for Data on Graphs (2024).

➤ Hosted a Statistical Workshop Focus Group in King's College London (2025).

➤ Offered 1-1 statistical peer support to PhD students as a graduate teaching assistant (2025 - 2026).

WORK EXPERIENCE

King's College London

London, United Kingdom

Oct 2025

Graduate Teaching Assistant

- Assisted with the “Statistics Methods in Dental Research” course for postgraduate (taught) classes.

Datum Insights

Kuala Lumpur, Malaysia

Jul 2022 – Mar 2023

Senior Data Scientist

- Developed **TruckVal**, **BikeVal** and **SalvageVal** (valuation models for trucks, motorcycles, and salvage vehicles) and successfully **achieved the goal** of valuing >70% of assets with similar or better performance in terms of mean absolute error (MAE) compared to a human expert valuer.
- **Mentored** an intern in the data science team from the Universiti Malaya.

Data Scientist

June 2021 - Jul 2022

- Improved **InstantVal (LightGBM)** model (also used in **PricesPeoplePay** product) by >100 MAE. Redesigned target encoder to utilise multi-level mean for certain categorical features with shared predecessor. Implemented a custom logic to **predict unseen vehicle variants** based on their predecessor in lineage.
- Developed a variation of **InstantVal** called **IndustrialVal** that focuses on valuing industrial assets such as trucks, trailers, earthmoving assets, etc. **IndustrialVal** (in the development stage) can perform **better** than human valuer in certain industrial market segments.
- Worked on a variation of **InstantVal** called **SalvageVal** that focuses on valuing salvage assets. **SalvageVal** (in the development stage) can perform **better** than human valuer in certain salvage market segments.
- **Refactored and cleaned up** several repositories and created a **common valuation library** to be used across all projects.
- **Led the technical development** of the first version of **AutoPredict (LightGBM)** model that predicts the residual value of vehicles with up to 98% coverage and 2500 MAE. Collaborated with the Australian team to understand the task and business requirements.

Data Scientist (Part Time)

Mar 2020 – May 2021

- Trained and built a pipeline for license plate recognition (**MaskedRCNN & YOLO with Tensorflow**).
- Designed a **dashboard** for monitoring and interpreting **InstantVal** model with **SHAP** and historical data analysis.

Data Scientist Intern

Aug 2019 - Feb 2020

- Proposed an unsupervised clustering method (Feature extraction with **InceptionV3 & MobileNet** > **UMAP** dimensionality reduction > **DBSCAN** Clustering) to create training dataset for supervised learning from different types of vehicle images.
- Developed an **end-to-end pipeline** for vehicle colour detection from segmenting vehicles (**MaskedRCNN**), querying top colours in different colour spaces, predicting RGB values from vehicle paint name (**Bi-LSTM**), to predicting basic colour names from RGB values (**XGBoost**).
- Built several supervised learning models (**Tensorflow/Keras**): vehicle image, vehicle make, vehicle body type classification, etc.

Centre of Image and Signal Processing (CISiP) Lab, Universiti Malaya

Remote

Research Assistant (Part Time)

Feb 2022 – Aug 2023

- **Led a research project** on protecting intellectual property rights of recurrent neural networks (See publication below)
- **Collaborated** with other senior lab members supervised by Dr Chan Chee Seng from Universiti Malaya and/or Che-Tsung Lin from Chalmers University of Technology on projects (**PyTorch**) such as:
 - Integrated circuit text detection dataset with aesthetic annotations
 - Low-light image enhancement
 - Breast cancer calcification detection on medical computerized tomography (CT) scan 3D images

Tapway

Selangor, Malaysia

AI Developer

Jul 2018 – Nov 2018

- Developed several AI solutions including face recognition and car plate recognition (**Tensorflow**).

Universiti Malaya

Kuala Lumpur, Malaysia

Teaching Assistant (total of 8 classes, each 6-month long, covering Java, Data Structure, and Networking)

Sep 2018 - Sep 2020

AWARDS HIGHLIGHTS

- **E-Genting Bug Hunt Competition** - 1st place (2018), 3rd place (2019)
- **ACM-ICPC Competitive Programming Competition (Malaysia)** - 2nd Place (2018), 2nd Place (2019)
- **E-Genting Programming Competition** - 3rd place (2018), 2nd place (2019)
- **F-Secure Intervarsity Cyber Security Competition** - 2nd Place (2018), 2nd Place (2019)
- **KPMG Cyber Security Competition** - 2nd Place (2019)
- **Chinese Outbound Tourism Forecasting Competition (2023)** - Third Runner-Up
- **MICCAI ToothFairy3 Challenges (2025)** - 1st place (Task 1), 1st place (Task 2)
- **MICCAI STSR Challenge (2025)** - 1st place (Task 1)

SPOKEN LANGUAGES

English, Mandarin, Bahasa Melayu (Malay) - able to speak & write fluently.

Spanish - self-taught, CEFR A2.

SIDE PROJECTS

Perodua QC Inspection System

Remote

Full Stack Engineer

Sep 2018 - Aug 2019

- Worked with a team of 5 students to build a **complete system** for QC inspection and successfully **transformed** the vehicle inspection process flow from a manual labour operation to a computer-aided operation.
- 2-part system: 1 mobile app (Java) for inspectors to take photos and book in details of vehicles using Panasonic Toughpad FZN1; 1 PC software (Python) for processing and checking inspection results.

COMMUNITY SERVICE

- **Deputy Director | University of Malaya Programming League (2018)**

- **Directed a team of 20+ volunteers** in hosting the annual programming competition at the university to encourage students to improve on programming and problem-solving skills.
- Besides **overseeing** the whole project, I also **designed** a few competition challenges for the closed category.

- **Multimedia and Technical Department | Feskum (Convocation Ceremony of Universiti Malaya) (2017)**
- **Publicity and Marketing Department | FaceHack [AI Hackathon] (2017)**
 - Worked closely with sponsors and created promotional materials such as posters and short films.