

# TAN Jing Jie

(Jay, 25,y/o,  Malaysian,  Google Scholar )

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Passionate about **machine learning** and **computer science**. Currently pursuing a **Ph.D. in Engineering** at **UTAR**, after graduating with **Distinction** in **BCS (Hons) Artificial Intelligence**. Awarded **grants** and **prizes** totaling up to **MYR 650,000 (USD 150,000)** for leading **research** and innovative **projects**. Experienced in developing **machine learning applications** across **finance, education, blockchain, and sustainability**, while consistently achieving **10+ top championships** and **5 research mobility grants**.

## INDUSTRIAL EXPERIENCES

<b>Machine Learning Engineer</b> • <i>Tanya Jiwa Ltd., Contract, Malaysia</i>	Apr 2025 - Oct 2025
• Delivered an <b>LLM-powered mental health automation system</b> that reduced human resource requirements by <b>72%</b> for the education sector while maintaining <b>high-quality psychological services</b> .	
• Engineered a <b>dynamic context-windowing algorithm</b> that decreased token consumption by <b>30%</b> , improved memory efficiency, and enhanced the model's intelligent contextual understanding.	
• Advised on <b>technology stack choice</b> with CTO, and <b>streamlined testing</b> , achieving a <b>30% reduction</b> in development time and a <b>40% acceleration</b> in <b>cloud-hosted deployment readiness</b> .	
<b>Network Engineer</b> • <i>Huawei Technologies Ltd., Intern, Malaysia</i>	Oct 2020 - Jan 2021
• Developed <b>automation scripts</b> for Network Technical Deployment, facilitating deployment across <b>100 servers</b> and accelerating the process by approximately <b>20x</b> .	
• Executed <b>Project Management with Data Analytics</b> for networking hardware deployment across <b>3 projects</b> with Malaysian Telecom Companies.	
• Coordinated with <b>2 local departments, headquarters, and stakeholders</b> to ensure alignment and effective communication.	
<b>Programming Lecturer</b> • <i>Angsamas Media Ltd., Contract, Malaysia</i>	Sep 2022 - Feb 2023
• Delivered comprehensive <b>AI, IT and programming lectures</b> with hands-on practical sessions to over <b>500 students</b> , including working professionals.	
• Achieved <b>250% growth</b> in both enrollment and revenue through effective curriculum delivery and student engagement.	
<b>Software &amp; Website Developer</b> • <i>Self-employed, Freelancer</i>	Ongoing
• Designed and developed more than <b>10 web and mobile applications</b> for small-sized enterprises according to provided business requirements.	

## ACADEMIC EXPERIENCES

<b>Visiting Scholar (Fully Funded)</b> - Prof. LIU Kaiyang <i>Memorial University of Newfoundland (MUN), Department of Computer Science, Canada</i>	Sep 2025 - Jan 2026
<b>Visiting Scholar (Fully Funded)</b> - Prof. Rupert SCHREINER <i>Ostbayerische Technische Hochschule (OTH), Laboratory for Electro-Optics Systems (LEOS), Germany</i>	May 2025 - Jun 2025
<b>Visiting Scholar (Fully Funded)</b> - Prof. KAWARAZAKI Noriyuki <i>Kanagawa Institute of Technology (KAIT), Advanced Artificial Intelligence Research Center, Japan</i>	Feb 2025 - Mar 2025
<b>Visiting Scholar (Fully Funded)</b> - Prof. LO Shih-Yu <i>National Yang Ming Chiao Tung University (NYCU), ICS Multimedia System Laboratory, Taiwan</i>	Sep 2024 - Oct 2024
<b>Visiting Scholar (Fully Funded)</b> - Prof. Anissa MOKRAOUI <i>Université Sorbonne Paris Nord (USPN), Laboratoire de Traitement et Transport de l'Information, France</i>	Apr 2024 - Jun 2024
<b>Scholar Representative (Fully Funded)</b> <i>ASEAN-IPR Regional Conference on Cybersecurity, Delegates, Thailand</i>	Feb 2025
<b>Scholar Representative (Fully Funded)</b> <i>Global Young Scientist Summit (GYSS), Delegates, Singapore</i>	Jan 2024

## EDUCATION

<b>Doctor of Philosophy (Engineering)</b> , Universiti Tunku Abdul Rahman (UTAR), LKCFES	Nov 2022 - Nov 2025
<b>Achievements:</b> Best Presenter & Best Project Demo @ UTAR Postgraduate Colloquium 2024, Best Student Excellence Awards @ Joint International Workshop 2025 on AI Engineering and Technology (AIET 2025)	
<b>Scholarships:</b> UTAR Education Foundation Scholarship (Fast Track Ph.D.), UTAR Research Fund – Research Scholarship Scheme, Greateach Integration – Student Assistantship	
<b>Bachelor of Computer Science (Honours)</b> , Universiti Tunku Abdul Rahman (UTAR), FICT	Jun 2019 - Jun 2022
<b>CGPA:</b> 3.9717 (First Ranked), Book Prize, 7 President's List, 1 Dean's List	
<b>Achievements:</b> Innovation and Creativity Award, SDG Merit Award	
<b>Scholarship:</b> Hong Leong Foundation Scholarship, UTAR Top Achiever Scholarship	
<b>Foundation in Science (Physical Science)</b> , Universiti Tunku Abdul Rahman (UTAR), CFS	May 2018 - May 2019
<b>CGPA:</b> 3.8272, President's List, Dean's List	
<b>Scholarships:</b> UTAR Top Achiever Scholarship	
<b>High School (Science Stream)</b> , Bagan Jaya High School (SMK)	Jan 2013 - Dec 2017
<b>Grade:</b> Malaysian Certificate of Education (SPM) 8As	
<b>Achievements:</b> Outstanding Student Awards (2017), Best Student Leader (2015-2017)	

## FUNDING GRANTS

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Successfully secured **multiple international research mobility grants**, fostering global collaborations, multidisciplinary networking, access to advanced computational resources, and contributions to **Machine Learning** and **Computer Science**.

1. <b>Canada-ASEAN Scholarships and Educational Exchanges for Development (SEED) Research Mobility Grant, Recipient</b> ⇒[1]	Sep 2025 - Dec 2025
2. <b>Deutscher Akademischer Austauschdienst (DAAD) Research Grant Research Mobility Grant, Recipient</b> ⇒[1]	May 2025 - Jun 2025
3. <b>Japan Student Services Organization (JASSO) Research Scholarship Research Mobility Grant, Recipient</b> ⇒[1]	Feb 2025 - Mar 2025
4. <b>National Yang Ming Chiao Tung University (NYCU) Short Term Research Mobility Grant Research Mobility Grant, Recipient</b> ⇒[1]	Sep 2024 - Oct 2024
5. <b>Embassy of France in Malaysia Doctoral Research Mobility Grant Research Mobility Grant, Recipient</b> ⇒[1]	Apr 2024 - Jun 2024
6. <b>ITS Community Technological (CommTECH) Research Exchange Scholarship Research Scholarship, Recipient</b> ⇒[1]	Oct 2023 - Sep 2024
7. <b>Payment Network Digital Campus (PDC) 2024</b> <i>Project Grant, MYR 100,000 (~USD 23,000), Principal Investigator</i> ⇒[1]	Jan 2024 - Dec 2024
8. <b>Payment Network Digital Campus (PDC) 2023</b> <i>Project Grant, MYR 60,000 (~USD 14,000), Co-Principal Investigator</i> ⇒[1]	Jan 2023 - Dec 2023
9. <b>ASEAN Korea Cooperation Fund for ASEAN-IPR Regional Conference on Cybersecurity (CyberCon) Travel &amp; Conference Grant, Awardee</b> ⇒[1] [2] [3] [4] [5] [6] [7] [8] [9] [10]	Feb 2025
10. <b>UTAR Research Fund for Singapore Global Young Scientist Summit (GYSS) Travel &amp; Summit Grant, Recipient</b> ⇒[1]	Jan 2024

## PUBLICATIONS

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Publications with **international collaboration**, including **Q1 journals** in **IEEE Transactions**, **conference proceedings**, and **peer-reviewed publications** spanning across **computational social systems**, **natural language processing**, **machine learning**, and **cybersecurity** domains.

1. **Tan, J. J.**, Kwan, B.-H., Ng, D. W.-K., Hum, Y.-C., Mokraoui, A., & Lo, S.-Y. (2025). Prompting-in-a-Series: Psychology-Informed Contents and Embeddings for Personality Recognition with Decoder-Only Models. *IEEE Transactions on Computational Social Systems*, 1–15. <https://doi.org/10.1109/tcss.2025.3593323>, JIF:4.9
2. **Tan, J. J.**, Kwan, B.-H., Ng, D. W.-K., & Hum, Y.-C. (2025). Adaptive focal loss with personality stratification for stably mitigating hard class imbalance in multi-dimensional personality recognition. *Scientific Reports*, 15(1). Springer Science and Business Media LLC. doi:10.1038/s41598-025-22853-y. Available at: <http://dx.doi.org/10.1038/s41598-025-22853-y>, JIF:3.9
3. **Tan, J. J.**, Kwan, B.-H., Ng, D. W.-K., & Hum, Y. C. (2025). Psychology-informed Natural Language Understanding: Integrating Personality and Emotion-aware Features for Comprehensive Sentiment Analysis and Depression Detection. *Pertanika Journal of Science and Technology*, 33(S4). <https://doi.org/10.47836/pjst.33.s4.04> JIF:1.2
4. **Tan, J. J.** (2025) Bytes of Peace: Leveraging Technology to Promote Trust and Security. *ASEAN-IPR Regional Conference on Cybersecurity: The Role of Information and Technology in Fostering a Culture of Peace in ASEAN*. ASEAN IPR Publication, pp. 60–67. <https://asean-aipr.org/resources/publications/asean-ipr-cybersecurity-youth-essay-competition>
5. **Tan, J. J.**, Schreiner, R., Hausladen, M., Asgharzade, A., Edler, S., Bartsch, J., Bachmann, M., Schels, A., Kwan, B.-H., Ng, D. W.-K., & Hum, Y.-C. (2025). SiMiC: Context-Aware Silicon Microstructure Characterization Using Attention-Based Convolutional Neural Networks for Field-Emission Tip Analysis. *Journal of Vacuum Science & Technology B*, 43(6), 0005068. <https://doi.org/10.1116/6.0005068> (Editor's Choice, JIF: 2.7)
6. **Tan, J. J.**, Mokraoui, A., Kwan, B.-H., Ng, D. W.-K., & Hum, Y.-C. (2024). Siamese-Driven Optimization for Low-Resolution Image Latent Embedding in Image Captioning. In *2024 Signal Processing: Algorithms, Architectures, Arrangements, and Applications (SPA)* (Vol. 10, pp. 79–84). 2024 Signal Processing: Algorithms, Architectures, Arrangements, and Applications (SPA). IEEE. <https://doi.org/10.23919/spa61993.2024.10715604>
7. Wong, Y. J., **Tan, J. J.**, Tham, M.-L., Kwan, B.-H., & Hum, Y. C. (2025, July). Tri-Axial Scaling in Aerial Object Detection: Model Size, Dataset Size and Quality, and Test-Time Inference in the Cadot Challenge. Institute of Electrical and Electronics Engineers (IEEE). <https://dx.doi.org/10.36227/techrxiv.175322322.26858739>
8. **Tan, J. J.**, Kwan, B.-H., Ng, D. W.-K., & Hum, Y. C. (2023). Enhancing Performance in Sentiment Classification of Textual Messages through Personality Recognition Integration. *Proceedings of the 11th International Symposium on Applied Engineering and Sciences (SAES2023)*, pp. 258–259, eISBN: 9786297590646, <https://saes.upm.edu.my/>.
9. **Tan, J. J.**, Kwan, B.-H., Ng, D. W.-K., Hum, Y.-C., Mokraoui, A., & Lo, S.-Y. (2025). Large Language Model in Multilingual Personality Recognition (Reviewing)
10. **Tan, J. J.**, Kwan, B.-H., Ng, D. W.-K., Hum, Y.-C., Mokraoui, A., & Lo, S.-Y. (2025). LLM-as-a-judge for Theory-Agnostic Personality Recognition (Reviewing)
11. **Tan, J. J.**, Wang, H., Luo, J., Kwan, B.-H., Ng, D. W.-K., Hum, Y.-C., Mokraoui, A., & Liu, K. (2025). Policy-Agnostic Knowledge Aggregation Reinforcement in Federated Personality Modeling under Heterogeneous Privacy Constraints. (Preparing)

## ACHIEVEMENTS

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Back-to-back recipients of **Outstanding Talent Award 2024 and 2025** by the university in recognition of leading projects and competitions. The total accumulated grants and cash prizes amount to **MYR 650,000 (~USD 150,000)**, excluding separately granted travel funds and conferences/summits/events expenses. ⇒[1] [2] [3] [4]

1. <b>PayHack Hackathon</b> (100+ teams), <i>Payment Network Malaysia Champion, MYR 20,000 (~USD 4,600)</i> ⇒[1] [2] [3] [4]	May 2023
2. <b>CHIPTA Hackathon</b> (50+ teams), <i>Malaysian Goverment Champion, MYR 10,000 (~USD 2,300)</i> ⇒[1]	Sep 2023
3. <b>BRIDG3 Hackathon</b> (100+ teams), <i>Maschain Champion (Overall Track), USD 2,500; 1st Runner Up (Impact Track), USD 1,000</i> ⇒[1]	July 2024
4. <b>CADOT Challenge</b> (10+ teams), <i>Institute of Electrical and Electronics Engineers (IEEE) Champion, EUR 1,000 (~USD 1,200)</i> ⇒[1] [2] [3]	July 2025
5. <b>CISCO AI Hackathon</b> (100+ teams), <i>Cisco Champion MYR 1,000</i> ⇒[1] [2] [3] [4]	Dec 2024
6. <b>Huawei ICT Competition</b> (100+ teams), <i>Huawei Technologies 1st Prize (Individual), ~USD 200; 1st Runner Up (Team), ~USD 200; 3rd Runner Up (Regional)</i>	Mar 2022
7. <b>Alibaba My Digital Talent in U Competition</b> (1000+ persons), <i>Alibaba Cloud 1st Prize (Team), MYR 180,000 (~USD 42,000); 1st Runner Up (Individual), MYR 2,000 (~USD 500)</i> ⇒[1]	Jan 2023
8. <b>I-RIA Innovation Competition</b> (149+ teams), <i>Universiti Utara Malaysia Gold Award &amp; Best Presentation, Sponsored Patent</i> ⇒[1]	Dec 2023
9. <b>ASEAN-China-India Youth Leadership Summit</b> (100+ teams), <i>OSG Youth Alliance &amp; Resolute 1st Prize (Malaysia), Sponsored for presentation at global summit (Singapore)</i> ⇒[1]	Nov 2023
10. <b>Community Technological Project Competition</b> (30+ teams), <i>Institut Teknologi Sepuluh Nopember Champion, Fully Sponsored Trip</i> ⇒ [1]	Aug 2023
11. <b>ASEAN-IPR Cybersecurity Conference - Youth Essay Competition</b> (National competition), <i>ASEAN-IPR 1st Prize (Malaysia), Sponsored publication &amp; trip &amp; conference (Thailand)</i> ⇒[1] [2] [3] [4] [5] [6] [7] [8] [9] [10]	Jan 2025
12. <b>Malaysia National Mathematical Olympiad (OMK)</b> (1000+ participants), <i>PERSAMA 1st Prize (2015), Qualified for the selection test to represent Malaysia at the IMO.</i> ⇒[1]	Dec 2015
13. <b>Loyalty Hackathon</b> (30+ teams), <i>Tune Protect 1st Runner Up, MYR 5,000 (~USD 1,200)</i> ⇒[1]	July 2023
14. <b>AIGC Competition</b> (50+ teams), <i>Bricks 1st Runner Up, Sponsored trip to forum meeting (China)</i> ⇒[1]	Nov 2023
15. <b>MCMC Datathon</b> (50+ teams), <i>Malaysian Communications and Multimedia Commission 1st Runner Up &amp; Best Presenter, MYR 3,500 (~USD 800); Sponsored trip (Malaysia)</i> ⇒[1]	Nov 2025
16. <b>SUI Hacker House MY</b> (20+ teams), <i>SUI Foundation 1st Runner Up, MYR 3,000 (~USD 700)</i> ⇒[1]	Mar 2025
17. <b>Science Bowl</b> (100+ teams), <i>UTAR 1st Runner Up</i> ⇒[1]	Mar 2019
18. <b>Payment Network Digital Campus 2023</b> (30+ teams), <i>Payment Network Malaysia 2nd Runner Up PDC Summit, MYR 20,000 (~USD 4,600)</i> ⇒[1]	Dec 2023
19. <b>Payment Network Digital Campus 2024</b> (30+ teams), <i>Payment Network Malaysia 2nd Runner Up PDC Summit, MYR 30,000 (~USD 6,700)</i> ⇒[1]	Dec 2024
20. <b>Can You Hack It Hackathon</b> (80+ teams), <i>Hong Leong Bank 2nd Runner Up, MYR 2,500 (~USD 600)</i> ⇒[1]	Nov 2023
21. <b>IOTA Hackathon Malaysia</b> (20+ teams), <i>IOTA Foundation 3rd Runner Up, USD 1,500</i> ⇒[1] [2]	Feb 2025
22. <b>Build On Malaysia Hackathon</b> (10+ teams), <i>Amazon Web Service Hackathon 3rd Runner Up, USD 1,600</i> ⇒[1]	Dec 2020
23. <b>Malaysia National Mathematical Olympiad (OMK)</b> (1000+ participants), <i>PERSAMA 3rd Prize (2016), Qualified for the selection test to represent Malaysia at the IMO.</i> ⇒[1]	Dec 2015

## APPLICATIONS

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**SEAVIP: Real-Time Face Recognition Social Enhancement for Visually Impaired People**  
<https://github.com/jingjie00/SEAVIP>

- A **machine learning** integrated mobile **social assistant application** for **visually impaired people**. The executable application and functionality details are available at: <https://seavip-app.web.app>
- Collaborated & supported by **Malaysian Association for the Blind (MAB)** and received **high positive feedback** (≈5/5 ratings) during the post-project review with **8 visually impaired people**.
- **Final Year Project** was awarded as a **dual recipient** of the **UTAR Innovation & Creativity Award 2024** and the **UTAR SDG Merit Award 2024**.

**Self-Coded Physical to Online Restaurant Menu Conversion System**  
[https://github.com/jingjie00/phy2online\\_menu](https://github.com/jingjie00/phy2online_menu)

- A digital transformation application for traditional restaurants to convert their existing paper menu to an online system with only a camera scan.
- Undergraduate Research Scheme Project completed with commendation as part of a postgraduate research collaboration.

## SKILLS

<b>Languages</b>	English, Chinese, Malay, Hokkien, Cantonese
<b>Programming Languages</b>	Python, Java, JavaScript, C, C++, MIPS, Go, R
<b>Machine Learning</b>	PyTorch, OpenCV, TensorFlow, Keras
<b>Frontend &amp; Application</b>	HTML, CSS, Bootstrap, jQuery, XML, React.js
<b>Web-2 &amp; Distributed Computing</b>	Firebase, GCP, AWS, Azure, ACP, Node.js
<b>Web-3 &amp; Technologies</b>	MasChain, Aptos, IPFS, Remix, Spheron
<b>Databases</b>	PostgreSQL, MariaDB, SQLite, DynamoDB
<b>Hardware Systems</b>	Arduino, Raspberry
<b>Multimedia Tools</b>	Adobe Photoshop, PremierePro, AfterEffect, OBS, Mixer
<b>Office Tools</b>	LaTeX, iWork, Microsoft Office, Publisher, Visio, Project, Access

## CERTIFICATIONS

### Huawei ICT Certification

- HCIP: Datacom Network Automation Developer; HCIA: Artificial Intelligence, Datacom, Security

### Amazon Web Services (AWS) Certification

- AWS Cloud Practitioner

### Microsoft Certified Professional Certification

- MC: Azure AI Fundamentals, Security, Compliance, and Identity Fundamentals, Azure Data Fundamentals, Azure Fundamentals

### Alibaba Cloud Certification

- ACS: Machine Learning;
- ACP: Cloud Computing; ACA: Cloud Security, Cloud Native, System Operator, Developer, Database, Big Data

## GUEST ACTIVITIES

### National Yang Ming Chiao Tung University (NYCU), Taiwan (2024) - Guest Lecturer

- Machine Learning Application Introduction - Invited by Prof. Shih-Yu, Lo (Cognition and Communication Laboratory)
- Personality Recognition Application – Invited by Prof. Po-An, Chen (Economics and Computing Laboratory)

### Institute of Electrical and Electronics Engineers (IEEE) EEPIS branch - Guest Speaker

- International Webinar: Unlock Global Potential – Invited by Mr. M. Rizky Pratama (Chairperson IEEE, EEPIS branch) ⇒[1]

### PayNet Digital Campus 3.0, Malaysia (2025) - Guest Speaker

- UTARPay Application - Invited by Payment Network (PayNet) for Annual PDC Summit

### Universiti Tenaga Nasional (UNITEN), Malaysia (2023) - Guest Judge

- Hack@10 Hackathon - Invited by Dr. Rohaini Binti Ramli (College of Computing and Informatics) ⇒[1]

## MEMBERSHIPS AND FELLOWSHIPS

- beVisioneers: The Mercedes-Benz Fellowship – Fellow (Cohort 3, 2025)
- UTAR Student Representative Council (SRC) – Postgraduate Rep. (2023/2024/2025) &– Faculty Rep. (2020/2021)
- UTAR Ambassador (2021) – University Appointed
- Mensa Malaysia – Executive Committee (2023/2024)

## MISCELLANEOUS

- Certified First Aider (Basic First Aid + CPR)
- Certified PCEIA & CEILLI

## REFERENCES

**Dr. KWAN Ban Hoe • UTAR**  
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+(60) [Available upon request]



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(alternative: <https://tan-jingjie.web.app>)



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