

Brian Tham

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Education

Singapore Institute of Technology

B.Sc. (Hons), Applied Artificial Intelligence. GPA: 4.41/5.00

Singapore

April 2026

Relevant Coursework: Mathematics 1 (A+), Mathematics 2 (A+), Machine Learning (A+), Computer Vision and Deep Learning (A-), Large Language Models (B+), Data Structures and Algorithms (A), Cloud Computing and Big Data (A-), Edge Computing and Analytics (A)

FPT University

Short intensive course in Computer Vision and Deep Learning
Achieved Best Accuracy of Model award

Da Nang, Vietnam

August 2024

Singapore Polytechnic

Diploma in Information Technology

Singapore

April 2021

Specialisation: Game Development

Relevant Coursework: AI & Machine Learning elective (B+)

Research Interests

Recommender Systems: Developing advanced recommendation algorithms leveraging deep learning and large language models. I am interested in exploring hybrid approaches that combine collaborative filtering with content-based methods, and investigating how LLMs can enhance recommendation quality through better understanding of user preferences and item characteristics.

Computer Vision: Building on my experience with CNNs, LLMs, and multimodal systems, I'm interested in visual recommendation systems and cross-modal retrieval tasks that bridge vision and language understanding.

AI Model Robustness and trustworthiness: Extending my work on AI model protection to ensure recommendation systems are fair, explainable, and resistant to adversarial attacks, particularly important for deployed systems affecting user experiences.

Research Experience

Agency for Science, Technology and Research, Institute for Infocomm Research (I2R)

ARIA Research Intern

Singapore

September 2025 – April 2026

- Awarded the A*STAR Research Internship Award (ARIA)
- Project focus: Deep learning for image super-resolution and denoising

Singapore Institute of Technology

Research Assistant – AI Model Protection

Singapore

September 2024 – December 2024

- Conducted literature review on AI Model Protection
- Implemented UNet model for brain MRI segmentation
- Researched box-free model vulnerabilities and watermarking methodologies for neural networks

Professional Experience

Ministry of Defence

Admin Support Assistant

Singapore

October 2021 – August 2023

- Automated data processing and visualization, condensing a 24-hour procedure into 30 minutes

Lee Kong Chian School of Medicine

Digital Learning Intern

Singapore

September 2020 – February 2021

- Boosted tests scores by 20% through tailored e-learning solutions
- Spearheaded the digital transformation of anatomy reference materials

Projects

Multimodal LLM Profanity Detection

Demo: nightey3s-profanity-detection.hf.space
 Github: github.com/Nightey3s/profanity-detection

- Developed robust multimodal system for detecting and rephrasing profanity in text and audio
- Implemented context-aware detection that goes beyond simple keyword matching
- Integrated OpenAI's Whisper for speech recognition and Microsoft's SpeechT5 for audio synthesis
- Dockerized and deployed on HuggingFace as a web application

FoodVision – Deep Learning Food Detection System

Demo: nightey3s-foodvision.hf.space
 Github: github.com/Nightey3s/FoodVision

- Built computer vision system using YOLOv8 for real-time food detection and classification
- Implemented detection capabilities for 55 different food classes
- Created web-based interface for real-time detection from images

Speech Emotion Recognition using Wav2Vec2

Github: ser.tham.ai

- Implemented emotion recognition system based on "3-D Convolutional Recurrent Neural Networks With Attention Model"
- Achieved 69.02% accuracy on IEMOCAP dataset
- Classified speech into four emotional categories: Neutral, Happy, Sad, and Angry
- Utilized pre-trained Wav2Vec2 model for enhanced speech processing

Technical Skills

- **Programming Languages:** Python, R, C, C#, C++
- **Machine Learning Frameworks:** PyTorch, Tensorflow
- **Data Analysis:** Matplotlib, RStudio, PowerBI
- **Cloud Platforms:** Google Cloud, HuggingFace, AWS
- **Development Tools:** Docker, Git

Certifications

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| • Google Professional Machine Learning Engineer | October 2024 |
| • Google Business Intelligence Professional Certificate | June 2024 |
| • Google AI Essentials | May 2024 |
| • AI4I® – Proficiency in AI (AI Singapore) | April 2024 |
| • Google IT Automation with Python Professional Certificate | March 2024 |
| • Applied Data Science Lab (WorldQuant University) | February 2024 |
| • Google Advanced Data Analytics Professional Certificate | December 2023 |
| • Google Data Analytics Professional Certificate | November 2023 |
| • AI4I® – Foundations in AI (AI Singapore) | August 2023 |

Additional Information

Languages: English (Native), Mandarin Chinese (Conversational)