

# Tan Swee Yang

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## Education

Universiti Tunku Abdul Rahman

May 2020 - Current

Bachelor Of Science (Honours) Software Engineering

- **Latest GPA:** 3.0/4
- **Coursework:** Artificial Intelligence, Probability and Statistics, Digital Image Processing, Object Oriented Programming, Web Application Development, Data Structures, Database System Fundamentals
- **Awards:** Academic Improvement List

## Skills

**Languages:** Java, Python, C#, C++, PHP, JavaScript

**Technologies:** JUnit, Mockito, Git, Maven

**Tools:** PyCharm, Jupyter, Eclipse, Visual Studio Code, Visual Studio, Unity

## Projects

**Human-in-the-loop RL for Emotion Recognition**

Jan 2023 - Jan 2024

[Publication](#)

- Introduces a novel approach to enhance the accuracy of a facial emotion recognition system by integrating human feedback as a refined reward function into q-learning and double q-learning.
- Our approach does not need an extensive dataset to include minority populations, ensuring fairness and avoiding discrimination.
- **Our proposed approach achieved the accuracy of 99% while improving the convergence rate of its predecessor without requiring any new data.**

**T-CNN Texture Classification | Python CNN Algorithm**

May 2023 - June 2023

[GitHub](#)

Implemented T-CNN and performed comparison with LeNet-5 in classifying textures from DTD dataset.

- Uses filter banks which improves the performance of CNNs while greatly reducing the memory usage and computation.
- **Achieved the stated T-CNN accuracy of  $0.28 \pm 0.01$  in the paper which outperforms LeNet-5 by 78.57%.**

**I'm not a robot | Java Discord Bot**

May 2022 - Jan 2023

[GitHub](#) | [Bot Invite Link](#)

Developed, tested, documented, and hosted a Discord bot with functions such as translation, dictionary, and currency conversion using Java, Maven, Git, JUnit, Javadoc, and DisCloud.

- Applied layered architecture, design patterns, clean code, and object-oriented concepts.
- Applied test-driven development with unit testing and integration testing using JUnit.
- **Resulted in a thoroughly tested codebase with clean code and solid architecture.**

**Invasion | Unity C# 2D Game**

May 2022 - Sept 2022

[GitHub](#)

Developed a 2D shooter game with 4 levels with complete user interface.

- Led the development team by distributing tasks, setting deadlines, setting file and code structure, and responsible for developing the user interface and utility classes.
- Applied 1 design pattern (singleton), clean code and object-oriented concepts.
- **Resulted in a codebase with organized and clean code.**