**Lee Yan Le Ryan**

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**education**

**National University of Singapore Aug 2022 - Present**

**Bachelor of Science (Hons)**

* Major in Data Science and Analytics
* Specialisation in Operations Research
* Minor in Computer Science
* CGPA: 4.39 / 5.0

**technical skills**

* Programming Languages: Python, Java, C++, C#, R, SQL
* Software: Microsoft Office Suite (Word, PowerPoint, and Excel), VSCode, Git
* Graphics: Photo Editing, Video Editing

**experience**

**Digital Production Assistant, NUS, Singapore Aug 2024 – Mar 2025**

* Collaborated with 3 professors and a production team to produce engaging educational videos on prompt engineering, generative AI and machine learning
* Contributed to courses published under NUS Blended Learning 2.0, allowing NUS professors and staff to learn more about recent advancements in AI and ML
* Revamped old lecture slides by integrating PowerPoint animations and transitions, synced recorded videos with slides using Camtasia, captioned videos using Descript

**Teaching Assistant, NUS, Singapore Aug 2024 - Nov 2024**

* Mentored 25 undergraduates in CS1010E, a course in NUS on computational thinking and problem-solving using Python
* Received 9 nominations for teaching excellence and rated 4.5/5 for overall teaching, slightly better than computing departments
* Designed custom slides, using animations for visual clarity to bridge learning gaps

**Projects**

**Detection of COVID-19 using Chest X-Ray Scans Aug 2024 – Dec 2024**

* Conducted binary classification on 535 greyscale X-ray images
* Utilised three CNN models (ConvNet, ResNet18, DenseNet121) from PyTorch library
* Applied GradCAM and GradCAM++ to visualize decision-making regions
* Succeeded in detecting COVID-19 with 77.8% accuracy

**Chess UI & AI Jul 2024 – Aug 2024**

* Developed an interactive chess application in C++ using Qt for a user-friendly GUI Experimented designing a custom chess AI with advanced search heuristics

**Breast Cancer Analysis Feb 2024 – Apr 2024**

* Conducted binary classification on 569 labelled samples
* Detected mislabels using feature engineering, clustering and logistic regression
* Utilised four Machine Learning models (LR, kNN, RF, SVM) from sklearn library
* Succeeded in detecting benign and malignant tumours with 96% accuracy

**Orbital NUqueSt May 2023 – Aug 2023**

* Developed a 2D top-down action-adventure game in Unity to gamify NUS courses
* Implemented quests and puzzles like N-Queens for computing courses to familiarize new undergraduates with course difficulty in a fun and interactive way
* Designed a unified enemy AI framework using inheritance, where each enemy type has unique implementations of movesets, behaviours and patterns
* Applied software engineering principles in back-end development
* Achieved the highest level of achievement (Artemis – Extreme), placing in the top 5%