

# Lee Yan Le Ryan

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## EDUCATION

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**National University of Singapore**  
**Bachelor of Science (Hons)**

**Aug 2022 - Present**

- Major in Data Science and Analytics
- Minor in Computer Science
- CGPA: 4.30 / 5.0

## TECHNICAL SKILLS

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- Programming Languages: Python, Java, C++, C#, R, SQL
- Software: Word, PowerPoint, Excel, VSCode, Git, Azure, AWS
- Graphics: Photo Editing, Video Editing

## EXPERIENCE

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**Data Science and AI Intern, Synapxe, Singapore**

**Jun 2025 – Jan 2026**

- Built a Python based UDAD tool that classifies authorised and unauthorised access using either rule-based logic or NLP embedding frameworks chosen by the client, achieving approx. 96.8% accuracy on 2643 records in 8 seconds
- Deployed LightRAG on Azure App Service by resolving linux wheelhouse dependency issues and deployment issues, and obtained more accurate and in-depth answers in a shorter response time compared to traditional RAG systems
- Optimised the AI2D feature building pipeline by integrating Polars, cutting loading time from around 282 seconds to 22 seconds on a desktop and from around 443 seconds to 78 seconds on a laptop, achieving approx. 90% speed ups on both machines
- Explored DLP use cases by evaluating local LLMs such as Ollama models for PII detection on strings potentially containing sensitive data, and improved extraction reliability through prompt engineering techniques like few-shot prompting

**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**

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### **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

### **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%

## **CO-CURRICULAR ACTIVITIES**

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### **Team Leader, Taekwondo Club, Singapore** **Jan 2018 – Nov 2019**

- Led a team of three in choreographing movements for 'A' Divisions in April 2019
- Collaborated with 10 other Team Leaders to host a Day Camp for over 30 Taekwondo members including juniors to strengthen bonds between team-mates and hone skills
- Volunteered with five others in assisting administrative matters for Daedo Poomsae Competition for 12 hours

### **Cadet Leader, National Cadet Corps, Singapore** **Jan 2014 - Nov 2017**

- Coordinated with other Cadet Leaders in maintaining a strong positive reputation of club
- Secured a Gold Medal for the Best Unit Competition in the Intra-School Event in 2017
- Provided back-end support for the National Day Parade march within school in 2016

## **ACHIEVEMENTS**

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- Amassed over \$2000 in cash from Edusave Awards over a span of 10 years
- Achieved a Bronze Medal during the JPJC Inter-House Games for Brawlhalla in 2018
- Achieved a Bronze Medal for the NUS Math Sudoku 2023