

# Ryan Joo Rui An

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## Education

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### Singapore-Cambridge GCE A-Level

2023 – 2024

Dunman High School

- 90/90 RP, including A in H2 Mathematics, Distinction in H3 Mathematics.

### Singapore-Cambridge GCE O-Level

2021 – 2022

Chung Cheng High School (Main)

- L1R5 raw 6 nett 4, including A1 in Mathematics and Additional Mathematics.
- Best in Additional Mathematics, Mathematics in 2021.

## Works In Progress

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“Topics in Undergraduate Mathematics.” Book manuscript in progress, to be completed in fall/winter 2028. [[GitHub](#)]

“Mathematics Olympiad: A Guidebook.” Book manuscript in progress. [[GitHub](#)]

## Projects

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### Different Sizes of Infinity [[GitHub](#)]

2024

- Exhibition poster which discusses the cardinality of infinite sets, designed for the Mathematics Week at my school.

### Fires and Hotspots [[GitHub](#)]

2023

Presented during Space Faculty Remote Sensing Workshop.

- Conducted geospatial analysis on fire hotspots in South Sumatra using Sentinel-2 and FIRMS datasets, identifying high-confidence fire zones ( $> 90\%$  probability) across a large AOI ( $\approx 50,000 \text{ km}^2$ ).
- Processed multi-spectral satellite imagery, applying True Color, False Color (NIR), and SWIR composites to visualise smoke plumes and burned areas.

## Selected Awards and Honours

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### Singapore Mathematics Olympiad

2022 – 2024

Silver awards.

### Singapore International Mathematical and Computational Challenge

2024

Merit award.

### Australian Mathematics Competition

2019 – 2024

Prize awards in 2019, 2021, High Distinction awards in 2022, 2023, 2024.

### Chuang Wei Lang Mathematics Award

2021

Awarded for outstanding results in mathematics.

### Dr Chuang Chu Lin Scholarship

2021

Awarded for 1st in Standard.

### Malaysian Computing Challenge

2020 – 2021

Gold awards.

### ASEAN Scholarship – Ministry of Education, Singapore

2020

Awarded to bright young students from ASEAN countries to study in Singapore.

### Malaysian Mensa Society

2020

Membership, Test Reference Number: MY023479.

### Hua Lo Geng Secondary School Mathematics Competition

2019

2nd place, mentioned in Sin Chew Daily 21/08/2019.

### Chen Jingrun's Cup Secondary School Mathematics Competition

2019

1st place, mentioned in Sin Chew Daily 26/04/2019.

## Professional Experience

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### Teaching Assistant

*Jan 2025 –*

SJK(C) Jalan Davidson

- Assisted in delivering mathematics olympiad lessons to 20+ students between ages of 7 and 8.

### Teaching Intern

*Nov 2022 – Dec 2022*

Cemerlang Bakti Tuition Centre

- Developed comprehensive teaching materials for mathematics olympiad training.
- Conducted lessons for students of various ages, delivering structured lesson plans on problem-solving techniques, mathematical reasoning, and critical thinking.

## Languages

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English (Proficient), Chinese (Proficient), Malay (Fluent), Cantonese (Basic)