

# Thang Pang Ern

📍 Singapore    ✉ therayagrowthopia@gmail.com    in Thang Pang Ern    🌐 TheRayaGT

## Education

---

- BSc.      National University of Singapore** Aug 2024 -
- ▷ Pure Mathematics
  - ▷ Honours (Highest Distinction)
  - ▷ **Coursework:** Discrete Mathematics, Calculus, Single and Multivariable Calculus, Linear Algebra, Real Analysis, Numerical Analysis, Probability Theory, Complex Analysis
- BSc.      EPFL — Swiss Federal Technology Institute of Lausanne** Sept 2026-Jan 2027
- ▷ Exchange student
  - ▷ **Coursework:** Non-linear Programming, Stochastic Processes, Algebraic Geometry, Linear Optimisation
- A-Level      Nanyang Junior College** Feb 2020 - Dec 2021
- ▷ 88/90 rank points, 6 distinctions
  - ▷ **Coursework:** H2 Mathematics, H2 Further Mathematics, H3 Mathematics

## Experience

---

- Algorithm Engineer** Oct 2025-
- ▷ Working on knee biomechanics problems
- Teaching Assistant** Jul 2025-Dec 2025
- ▷ Teaching Assistant for MA2001 Linear Algebra I as part of the Undergraduate Teaching Opportunities Programme (UTOP)
  - ▷ Supervised by Associate Prof. Ng Kah Loon and Assistant Prof. Charmaine Sia
  - ▷ Facilitated consultation sessions
  - ▷ Prepared comprehensive written solutions and video explanations to tutorial questions and responded promptly to students' queries
- NUS Mathematics Society (President)** May 2025-May 2026
- ▷ Oversaw the running of the NUS Mathematics Society and its Cubing subcommittee
  - ▷ Collaborated with the NUS Statistics and Data Science Society and the NUS Physics Society
  - ▷ Initiated a film screening session 'In Pursuit of Mathematics'
  - ▷ Initiated a series of professor sharing sessions, a platform where professors from the Department of Mathematics share their research interests and personal insights with students
  - ▷ Advisor for the NUS Mathematics and Statistics Orientation Camp (MSOC) 2026
- NUS Mathematics Society (Project Director)** Aug 2024-May 2025
- ▷ Organised a faculty-wide Mathematics competition titled Problemathic 2025
  - ▷ Co-organised a faculty-wide puzzle competition titled Sudoku Contest 2025
  - ▷ Secured speakers for a Mathematics senior-junior sharing session where senior students

shared insights on research, careers, and graduate studies

## Mathematics Tutor

Feb 2024-Jun 2024

- ▷ Taught Mathematics: Analysis and Approaches (AA), Cambridge International AS & A Level Mathematics and Further Mathematics, Pearson Edexcel A Level Further Mathematics and STEP (Sixth Term Examination Paper)

## Publications and Preprints

---

### A Review of the Duffin-Schaeffer Conjecture and its Applications

Jul 2025

Joint with Loh Wei Xuan Ryan

### Weyl Sums and its Applications

Jul 2025

Undergraduate Research Opportunities Programmes in Science (UROPS)

Mentored by Associate Prof. Yang Lei

### On the Asymptotic Density of a GCD-based Map

Jan 2025

With Malcolm Tan Jun Xi

<https://arxiv.org/abs/2506.19812> 

### A Proof of Ramanujan's Classic $\pi$ Formula

Jan 2025

Joint with Devandhira Wijaya Wangsa

<https://arxiv.org/abs/2411.15803> 

### Finding Squares in a Product of Squares

Nov 2024

<https://arxiv.org/abs/2411.00012> 

## Conferences and Seminars

---

**20th MME Staff and Graduate Student Colloquium**, National Institute of Education (NIE)

Nov 2025

**19th MME Staff and Graduate Student Colloquium**, National Institute of Education (NIE)

Apr 2025

**18th MME Staff and Graduate Student Colloquium**, National Institute of Education (NIE)

Nov 2024

**$p$ -adic Geometry**, Institute of Mathematical Sciences (IMS)

Nov 2024

**Ramanujan: A Century of Inspiration**, Nanyang Technological University (NTU)

Sept 2024

**Computational Aspects of Thin Groups**, Institute of Mathematical Sciences (IMS)

Jun 2024

**17th MME Staff and Graduate Student Colloquium**, National Institute of Education (NIE)

Apr 2024

## Talks

---

**The Life and Legacy of Srinivasa Ramanujan** [\(Slides\)](#) 

Oct 2025

- ▷ Part of a series of undergraduate Mathematics seminars

**The Art and Analysis of Assumptions** [\(Slides\)](#) 

Jul 2025

- ▷ A nice mathematical interpretation of the infinite chocolate bar trick
- ▷ Part of the Future Generations of Scientists (FGS) Camp 2025

**The Prime Number Theorem** [\(Slides\)](#) 

Mar 2025

- ▷ An analysis of a classic result in Analytic Number Theory
- ▷ Part of a series of undergraduate Mathematics seminars

### Bridge Crossing (Slides) [↗](#)

Aug 2024

- ▷ An introduction to logic puzzles, with emphasis on the bridge and torch problem
- ▷ Part of the Future Generations of Scientists (FGS) Camp 2024

### Simple yet Complicated Numbers (Slides) [↗](#)

Aug 2023

- ▷ The significance of prime numbers and its connection with the Riemann hypothesis
- ▷ Part of the Future Generations of Scientists (FGS) Camp 2023

## Technologies

---

**Languages:** Python, Java, R, C, HTML, CSS, MATLAB,  $\text{\LaTeX}$ , Mathematica

**Technologies:** Microsoft Office, VEGAS Pro, Premiere Pro, After Effects, Illustrator, Photoshop, Lightroom

## Contributions to the Online Encyclopedia of Integer Sequences (OEIS)

---

**A342316:** Decimal expansion of  $\frac{\pi}{2} - \log 2$ . *Contributed the integral representation*

Feb 2026

$$\int_1^{\infty} \log \left( 1 + \frac{1}{x^2} \right) dx.$$

<https://oeis.org/A342316> [↗](#)

**A392834:** Time taken to get  $n$  people from one side of a bridge to the other where (a) the only flashlight must be carried when crossing; (b) at most three people may cross at the same time; (c) a group crosses at the speed of the slowest member; and (d) the  $k^{\text{th}}$  person requires  $k$  seconds to cross the bridge.

Jan 2026

With Gerard Sayson

<https://oeis.org/A392834> [↗](#)

**A392835:** Number of ordered pairs  $(i, j)$  with  $1 \leq i, j \leq n$  such that  $\gcd(i + j, ij) = \gcd(i, j)$

Jan 2026

With Loh Wei Xuan Ryan and Malcolm Tan Jun Xi

<https://oeis.org/A392835> [↗](#)