# Thomas Lam - Curriculum Vitae


**Contact Information**

Carnegie Mellon University
Department of Mathematical Sciences

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**Education**

**Carnegie Mellon University**

B.S. in Mathematical Sciences. Expected May 2023.
Cumulative GPA: 3.97

**Honors and Awards**

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|---|---|
| 2021 | Putnam Honorable Mention |
| 2020 | Richard A. Moore Award |
| 2019 | Regeneron Science Talent Search Finalist |
| 2018 | USAMO Qualifier |

**Publications & Preprints**

T. Lam, *Boundary Conditions on the Second-Order Singularly-Perturbed Problem on* $\mathbb{R}$. In preparation.

T. Lam, *Solution to the Number Rotation Puzzle*. In preparation.

**Research Experience**

2021-2022 NSF-funded research at Carnegie Mellon University in Calculus of Variations with **Dr. Giovanni Leoni**

- Found novel methodologies for determining the existence of Gamma limits of integral functionals associated with phase transitions
- Generalized existing results by accounting for boundary conditions in the second-order singularly perturbed problem in one dimension

**Work Experience**

2020-2022 Problem Author and Grader at **USAMTS**

- Crafted challenging math problems and graded problem submissions for a national competition to aid with the selection of the USA IMO team

2018-2022 AMC Teacher at **Pinnacle Education**

- Taught AMC problem-solving mathematics to classes of 4-15 students during summer and winter breaks

2019-2021 Content Creator Intern at **Expii**

- Designed math tests and revised course course content for the Daily Challenge with **Dr. Po-Shen Loh**. Worked customer support shifts.

**Talks**

- Speaker, CMU Math Club Colloquium, The Number Rotation Puzzle, September 7, 2022

**Upcoming Coursework**

* indicates graduate level coursework

❑ Advanced Topics in Real Analysis* ❑ Intro to Differential Equations*
❑ Category Theory

## Select Past Coursework

* indicates graduate level coursework

- ❑ Advanced Real Analysis*
- ❑ Complex Analysis*
- ❑ Extremal Combinatorics*
- ❑ Mathematical Studies Analysis
- ❑ Ordinary Differential Equations
- ❑ Measure and Integration*
- ❑ Probability*
- ❑ Mathematical Studies Algebra
- ❑ Vector Analysis

## Teaching Experience

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|---|---|---|
| Spring | 2022 | Teaching Assistant, Vector Analysis |
| Fall | 2022 | Teaching Assistant, Mathematical Studies Analysis I |

## Outreach

- Vice President External of the CMU Math Club
- Problem Writer and Grader for the CMIMC

## Other Skills

Languages: English (fluent), Spanish
Programming: Python, LaTeX, Java, SML, C, C++