

# Dongho Tommy Kim

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## EDUCATION

<b>University of California, Berkeley</b> <i>Berkeley, CA</i>	Aug 2021 - Dec 2025 (Expected)
	GPA: 3.77/4.00
<ul style="list-style-type: none"><li>• <b>B.A. in Mathematics</b>   <i>College of Letters and Sciences</i></li><li>• <b>B.A. in Computer Science</b>   <i>College of Computing, Data Science, and Society</i></li></ul>	<i>Math Major GPA: 3.80/4.00</i>

## RESEARCH

<b>Independent Research</b>	May 2025 - Present
<ul style="list-style-type: none"><li>• Conducting independent mathematical research in additive number theory under the guidance of Professor Hùng Việt Chu</li><li>• Studying the properties of Schreier sets, with a focus on the counts of the second-order Schreier sets, extending the work <i>The Fibonacci Sequence and Schreier-Zeckendorf Sets</i></li></ul>	
<b>Student Researcher</b>   <i>Polymath Jr. REU</i>	Jun 2024 - Aug 2024
<ul style="list-style-type: none"><li>• Conducted mathematical research in Diophantine equations under the supervision of Professor Hùng Việt Chu</li><li>• Studied the unique nonnegative solutions to a pair of Diophantine equations with varying Fibonacci coefficients, extending the work <i>Representation of <math>\frac{1}{2}(F_N - 1)(F_{N+1} - 1)</math> and <math>\frac{1}{2}(F_N - 1)(F_{N+2} - 1)</math></i></li><li>• Designed and implemented programs to identify such solutions</li><li>• Met weekly with mentors to explore new approaches and analyze emerging patterns in the data</li></ul>	

<b>Research Assistant</b>	Jun 2020 - Aug 2020
<ul style="list-style-type: none"><li>• Conducted mathematical research in graph theory under the supervision of Professor Chih-Wen Weng</li><li>• Met bi-weekly to discuss research in Hamiltonian graphs and triangulated graphs</li></ul>	

## PAPERS AND PREPRINTS

1. A Pair of Diophantine Equations Involving the Fibonacci Numbers (with X. Chen, H. V. Chu, F. K. Kesumajana, L. Li, S. J. Miller, J. Yang, and C. Yao). *Fibonacci Quart.* 63 (2025), no.3, 542–553 [\[pdf\]](#), [\[journal\]](#)

## DIRECTED READING

<b>Directed Reading Program</b>   <i>Mentor: Seewoo Lee</i>	Spring 2025 – Present
<ul style="list-style-type: none"><li>• Studied <i>A First Course in Modular Forms</i> by Fred Diamond and Jerry Shurman</li><li>• Participated in weekly discussions with graduate student mentor</li></ul>	
<b>Upper-Level Number Theory</b>   <i>Supervisor: Dr. Zeyu Liu</i>	Spring 2025
<ul style="list-style-type: none"><li>• Studied <math>p</math>-adic number theory based on Fernando Q. Gouvêa's <i><math>p</math>-adic Numbers</i> and Alain M. Robert's <i>A Course in <math>p</math>-adic Analysis</i></li><li>• Participated in biweekly discussions with Dr. Zeyu Liu</li></ul>	
<b>Directed Reading Program</b>   <i>Mentor: Connor Halleck-Dubé</i>	Fall 2024
<ul style="list-style-type: none"><li>• Studied <i>Representation Theory: A First Course</i> by William Fulton and Joe Harris</li><li>• Participated in weekly discussions with graduate student mentor</li><li>• Presented in semester-end conference <a href="#">[pdf]</a></li></ul>	
<b>Directed Reading Program</b>   <i>Mentor: Victor Ginsburg</i>	Fall 2023
<ul style="list-style-type: none"><li>• Studied <i>Graph Theory and Additive Combinatorics</i> by Yufei Zhao</li><li>• Participated in weekly discussions with graduate student mentor</li></ul>	

## INDEPENDENT STUDY

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<b>Participant</b>   <i>Preliminary Arizona Winter School</i>	Fall 2025
• Studied the analysis and implementation of algorithms in number theory under the guidance of Thomas Bouchet and Professor Juanita Duque-Rosero	
<b>Participant</b>   <i>Preliminary Arizona Winter School</i>	Fall 2024
• Studied local fields under the guidance of Thomas Browning and Professor Catherine Hsu	

## TEACHING AND MENTORING

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<b>Mentor</b>   <i>Math and Physical Sciences (MPS) Scholars</i>	Fall 2024 - Present
• Currently meeting biweekly with mentees to review key mathematical concepts and help navigate coursework	
• Lead collaborative discussions on mathematical concepts and problem-solving techniques	
• Provided guidance on academic and campus resources and offered personalized advice	
<b>Reader</b>   <i>Math 185 (Introduction to Complex Analysis)</i>	Fall 2025 - Present
• Graded problem sets while providing feedback	
<b>Reader</b>   <i>Math 113 (Introduction to Abstract Algebra)</i>	Spring 2025
• Graded problem sets while providing feedback	
<b>Reader</b>   <i>Math 128A (Numerical Analysis)</i>	Fall 2024
• Graded problem sets and exams while providing feedback	
<b>Academic Intern</b>   <i>Computer Science, Data Science Course Staff</i>	Spring 2022 - Spring 2023
• Helped Teaching Assistant lead a group of 30 students in lab sections	
• Assisted and led discussions in data structures, computer programs, and foundations of data science	

## SELECTED COURSEWORK

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<b>MATH 254A - Graduate Algebraic Number Theory</b>   Prof. Sug Woo Shin	Fall 2025
• Graduate-level algebraic number theory course using Serre's <i>Local Fields</i> and Neukirch's <i>Algebraic Number Theory</i>	
<b>MATH 196 - Honors Thesis</b>   Dr. Zeyu Liu	Fall 2025
• Currently writing an expository paper discussing the modularity theorem	
<b>MATH 143 - Elementary Algebraic Geometry</b>   Prof. Hannah Larson	Spring 2025
• Upper-level algebraic geometry course using Fulton's <i>Algebraic Curves</i>	
<b>MATH 250B - Graduate Commutative Algebra</b>   Prof. Peter Haine	Spring 2025
• Graduate-level commutative algebra course using Matsumura's <i>Commutative Ring Theory</i>	
<b>MATH 274 - Topics in Algebra</b>   Prof. Christian Gaetz	Fall 2024
• Graduate topics course in the combinatorics of Coxeter groups	
<b>MATH 250A - Graduate Algebra</b>   Prof. Richard Borcherds	Fall 2024
• Graduate-level abstract algebra course using Lang's <i>Algebra</i>	
<b>MATH H185 - Honors Introduction to Complex Analysis</b>   Prof. Tony Feng	Spring 2024
• Honors-level complex analysis course	
<b>MATH 115 - Introduction to Number Theory</b>   Prof. Owen Barrett	Fall 2023
• Introductory number theory course using Ireland and Rosen's <i>A Classical Introduction to Modern Number Theory</i>	

## CONFERENCES

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<b>Combinatorial and Additive Number Theory</b>	May 2025
<b>Joint Mathematics Meeting</b>	Jan 2025
<b>43rd Bay Area Discrete Math Day</b>	Dec 2024
<b>Modern Math Workshop</b>	Oct 2024

## RELEVANT SKILLS

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<b>Programming Languages:</b> Python, Java, MATLAB, Assembly (x86-64, Z80)
<b>Software:</b> VS Code, Visual Studio, IntelliJ IDEA, L <sup>A</sup> T <sub>E</sub> X
<b>Languages:</b> Korean (native), English (fluent), Mandarin (fluent)
<b>Libraries:</b> pandas, NumPy, Matplotlib