

Brian Miyatake

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Education

UNIVERSITY OF CALIFORNIA, LOS ANGELES

Los Angeles, California

Mathematics, B.S. 3.94 GPA .

Expected Graduation: June 2025

Relevant Coursework (classes with a * are in progress for Fall 2024):

- MATH 100 - Problem Solving
 - Learned problem-solving techniques and mathematical topics useful as preparation for the Putnam examination and similar competitions.
- MATH 110AH - Algebra (Honors)
- MATH 110BH - Algebra II (Honors)
- MATH 115AH - Linear Algebra (Honors)
- MATH 115B - Linear Algebra
- MATH 120A - Differential Geometry
- MATH 121 - Introduction to Topology
- MATH 245A - Graduate Real Analysis
- MATH 245B - Graduate Real Analysis II
- MATH 246A - Graduate Complex Analysis
- MATH 151A - Numerical methods
- MATH 151B - Numerical methods II*
- MATH 164 - Optimization
- MATH 170E - Probability
- MATH 182 - Algorithms*
- Passed the UCLA Basic Qualifying Exam, a benchmark for PhD students.

ARCADIA HIGH SCHOOL

Salutatorian, GPA 4.00. Math Team, Peer Tutor (Math)

Arcadia, CA

September 2017 - June 2021

DIRECTED READING PROGRAM AT UCLA

Los Angeles, CA

- Exploration of further topics in mathematics under the supervision of a graduate student.
- Spring 2022: Arithmetic Geometry, supervised by Timothy Smits.
 - Studied properties of quadratic residues, Legendre symbols, p-adics, Hasse-Minkowski Theorem.
 - Created and gave a presentation on two separate ways to prove Fermat's Two Squares Theorem. using both Minkowski's Theorem and the Hasse-Minkowski Theorem.
- Fall 2022: Functional Analysis, supervised by Timothy Smits.
 - Studied properties of Banach spaces and Hilbert spaces, along with self-adjoint and unitary operators. Hahn-Banach Theorem, Uniform Boundedness Theorem.
 - Created and gave a presentation on the Spectral Theorem for compact operators over a Banach space.

RESEARCH EXPERIENCE FOR UNDERGRADUATES AT UCLA

June 2024 - July 2024

- Studied forcing and independence results in set theory, following concepts from 2014 UCLA Logic Summer School.
- Worked collaboratively with four other students to write solutions to challenging exercises from the logic summer school.

LEAGUE OF SOROBAN (ABACUS) EDUCATION OF JAPAN

- 10+ years of experience in applying methods of calculation methods with and without an abacus on timed tests.
- Level 3-Dan in Soroban (abacus), level 4-Dan in Anzan (mental arithmetic).
- Highly skilled in mental arithmetic under intense pressure and strict time constraints.
 - Can perform quick approximations for complex expressions.
 - Ability to visualize and explain algorithms in mental arithmetic, such as addition, subtraction, multiplication, division, and taking square roots.

Technical: Proficient in Python (including algorithms), LaTeX.

Skills & Interests: Mathematical competitions: score of 114 on the 2020 AMC 12A, 6 on AIME, 24 on Putnam. Chess, weightlifting, rock climbing.