RAPHAEL ESQUIVEL

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EDUCATION

Harvey Mudd College, Claremont, CA *Aug 2025 - May 2029*
B.S., Mathematics & Physics
Related courses: Readings in Algebraic Geometry — Numerical Analysis — Abstract Algebra 1 — Intermediate Probability — Quantum Field Theory

'Iolani School, Honolulu, HI *Aug 2023 - Jun 2025*
High School Diploma (GPA: 4.33 weighted, 3.93 unweighted)
Related courses: Ordinary Differential Equations — Multivariable Calculus — Linear Algebra — Discrete Mathematics

Arizona State University, Phoenix, AZ *Aug 2024 - Apr 2025*
Non-Degree Seeking Student (GPA: 4.25 weighted, 4.0 unweighted)
Related courses: Mathematical Methods Physics II — Introductory Modern Physics — Quantum Physics II — Classical Particles, Fields, and Matter II

EXPERIENCE

Mathematics Grutor (HMC) *Jan 2026 - Present*
Graded and tutored linear algebra (MATH073).

Student Researcher, Logarithmic Gromov-Witten Theory (HMC) *Nov 2025 - Present*
Analyzed the tropical and combinatorial structure of relative stable maps to $(\mathbb{P}^n, H)$ and their boundary behavior in moduli spaces under Prof. Dagan Karp.

Student Researcher, Quantum Quasars Lab (HMC) *Sep 2025 - Present*
Designing, assembling, and calibrating free-space quantum communications systems under Prof. Jason Gallicchio. Worked on entanglement source, quantum link, Pockels cell.

PAPERS

Esquivel, R., & Post, S. (2025). *Lagrangian Dynamics and Lie Algebroid Cohomology.* Manuscript in preparation.

AWARDS

Karl Menger Memorial Award (2nd), American Mathematical Society *May 2025*
Awarded $1000 at Regeneron ISEF for project *Lie Groups and Algebroids in Lagrangian Reduction.*

SKILLS

Software	Python, Javascript, C/C++, R, Mathematica, Julia, 3D modeling,
Hardware	FDM, lathe, mill, PCB assembly, 3D printer maintenance
Languages	English (Native), French (Native), Spanish (Proficient)
Research interests	Enumerative geometry, logarithmic Gromov-Witten theory, tropical algebraic geometry, topological quantum field theory, geometric mechanics