

Raymond Baker

raymond.baker@colorado.edu

Interests

I am a student at the University of Colorado, Boulder, studying mathematics and philosophy. Within mathematics, I have an interest in higher category theory and homotopy theory, the foundations of math, and logic. I am currently writing my senior thesis in the math department on homotopy type theory and the univalent foundations of mathematics. I am looking at the Hopf fibration and the Eckmann-Hilton argument. I aim to write down a proof in the language of homotopy type theory showing that we can use Eckmann-Hilton to construct a generator of $\pi_3(S^2)$. Within philosophy, I have an interest in metaphysics, philosophy of language, and the philosophy of mathematics.

Education

- **University Of Colorado Boulder (Fall 2019-Present):** I am currently studying mathematics and philosophy at the University Of Colorado Boulder.
 - GPA through the end of Spring 2022: 3.7
 - In Spring 2023 I am taking: Topology II (MATH 6220), Independent Study for a senior thesis on Homotopy Type Theory (MATH 4900)
 - Independently, I am studying or pursuing the following topics: homotopy type theory, Eckmann-Hilton and the Hopf fibration in homotopy type theory, 2-category theory.Notable classes I have taken/subjects I have studied: Homotopy Type Theory (Honors Thesis), Category Theory (Reading Course), Topology I, Model Theory, Set Theory, Formal Methods in Philosophy.
- **Foothill College (Fall 2018-Spring 2019):** For my senior year in high school, I enrolled as a student at a local community college which allowed me to take multiple college-level math courses simultaneously. Average GPA 3.0.
- **Foothill Middle College (Fall 2017-Spring 2018):** For my junior year I transferred to the Middle College program, which allowed me to take college courses for math and electives such as philosophy. Average GPA 3.0
- **Palo Alto High School (Fall 2015-Spring 2017):** I attended Paly for my first two years of high school. Average GPA 3.0.

Employment

- **CU Boulder Department of Mathematics (October 2020 - Present):** *Mathematics Tutor:* tutoring a wide range of material (from Calculus I-III to Linear Algebra and Discrete Math) to University of Colorado Boulder students in the Mathematics Academic Resource Center..
- **CU Boulder Department of Mathematics (Sporadic, starting January 2020):** *Grader:* grading quizzes and homework in the mathematics department across multiple semesters for classes such as Linear Algebra for Math Majors, Discrete Math, and Calculus III (Multi-variable).
- **Generation Teach (June 2021 - August 2021):** *Teaching Fellow:* teaching 6th grade mathematics to students enrolled in the Generation Teach Strive Lake Academy.
- **CU Boulder Department of Mathematics (January 2021 - May 2021):** *Class Assistant:* helping to facilitate learning and group work in one recitation section of Calc II, though not enrolled in the Learning Assistant program.
- **Insomnia Cookie (June 2020 - October 2020):** *Shift lead:* running the store, managing online and in-store orders.
- **HP Labs, HP Inc (April 2019 - July 2019):** *Intern:* working under two color scientists as part of a research project studying the correlation between the optical and mechanical properties of 3-D printed parts.
- **Rick's Ice Cream (February 2017 - Summer 2017):** Multiple positions including customer-facing food service, cashier, and dishwasher.
- **PokeLove (June 2016 - December 2016):** Original employee (started before restaurant opening) covering multiple positions including customer-facing food service, cashier, and dishwasher.

Raymond Baker

raymond.baker@colorado.edu

Service

- President of CU Boulder Philosophy Club (Fall 2021- Spring 2023)
- Contributor to the agda-unimath repository

Awards and Accomplishments

- Jim and Laura Marshall Scholarship in Mathematics (2021-2022): scholarship awarded to outstanding upper-division mathematics majors who demonstrate excellence in their studies
- Sieglinde Talbott Haller Endowed Scholarship in Mathematics (Fall 2020-Spring 2021): scholarship given annually to graduate and undergraduate students in Mathematics who show exceptional mathematical promise.
- Dean's List, CU Boulder (Fall 2021, Spring 2021, Spring 2020, Fall 2019)

Hobbies

- Confection making: 2020-current
- Baking: 2015-current: Specializing in breads, including sourdoughs.