

# BOWEN LIU

bliu3@tulane.edu

---

---

## PROFILE

I am writing to apply for the master's degree in mathematics, track topology/algebra at the University of Bergen. I graduated from Tulane University, a top 50 University in the U.S.A., in 2020 with a double major in mathematics and philosophy. I believe my education and my unique experience would make me a strong candidate for the program.

---

---

## EDUCATION

- ❖ **Tulane University** ..... Aug 2016 — Jun 2020  
*Bachelor of Science* ..... New Orleans, Louisiana, U.S.A.  
Double Major in Mathematics and Philosophy

## RECOMMENDERS

- ❖ **Scott McKinley, Associate Professor of Mathematics** ..... Tulane University  
• [smckin3@tulane.edu](mailto:smckin3@tulane.edu)  
• 504-862-3426
- ❖ **Can Mahir, Professor of Mathematics** ..... Tulane University  
• [mcan@tulane.edu](mailto:mcan@tulane.edu)  
• (504) 862-3448
- ❖ **Ellis Fenske, Assistant Professor of Cyber Science** ..... United States Naval Academy  
• [fenske@usna.edu](mailto:fenske@usna.edu)  
• 410-293-0961

## RESEARCH INTEREST

❖ .....  
I am most interested in the field of category theory, particularly higher category theory and homotopy type theory. However, I am also eager to learn about the other areas of mathematics, such as K-theory and all aspects of topology in general.

## COURSES - UNDERGRADUATE

- ❖ **Calculus I (2017 summer school transfer credit)** .....
- ❖ **Calculus II** .....
- ❖ **Calculus III (2017 summer school transfer credit)** .....
- ❖ **Linear Algebra** .....
- ❖ **Real Analysis I** .....

- ❖ Real Analysis II (Analysis on Manifolds) .....
- ❖ Analysis I (Graduate Course) .....
- ❖ Intro to Discrete Math .....
- ❖ Abstract Algebra I .....
- ❖ Abstract Algebra II .....
- ❖ Topology I (Graduate Course) .....
- ❖ Introduction to Probability .....
- ❖ Ordinary Differential Equations .....
- ❖ Introduction to Complex Analysis (Coursera with certificate) .....
- Not taken during undergraduate due to schedule conflict*
- ❖ Introduction to Computer Science I .....
- ❖ Introduction to Computer Science II .....

### COURSES - TAKEN ONLINE

- ❖ Commutative Algebra .....
- ❖ Introduction to Algebraic Geometry .....
- ❖ Universal Algebra I .....
- ❖ Introduction to Algebraic Topology I .....
- ❖ Algebraic Knot Theory .....
- ❖ Algebraic Number Theory .....
- ❖ Homological Algebra .....

### SKILLS

Python .....	<i>Experienced</i>	C++ .....	<i>Experienced</i>
Java .....	<i>Experienced</i>	Haskell .....	<i>Novice</i>
C .....	<i>Experienced</i>		

### RESEARCH

- ❖ Summer Research in Mathematical Biology ..... May 2018 — Aug 2019  
 Professor Scott McKinley and Dr. Swati Patel, the Mathematics Department, Tulane University  
New Orleans
- ❖ Quantifying Morphologic Phenotypes in Prostate Cancer - Developing  
 Topological Description for Machine Learning Algorithms ..... 2018  
New Orleans

Professor Carola Wenk, the Department of Computer Science, Tulane University

♣ **Summer Research in the Philosophy and Cognitive Science of Mathematics** ..... May 2019 — Aug 2019  
New Orleans

Professor Daniel Burnston and Professor Richard Velkley, the Department of Philosophy, Tulane University

**GRANT**

♣ **Center for Academic Equity** ..... Jun 2019 — Sep 2019  
Philosophy of Mathematics Tulane University

**LANGUAGES**

English ..... *Native speaker*      Mandarin ..... *Native speaker*