

# SUGIL LEE

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## EDUCATION

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### Ph.D. in Mathematics

Aug 2020

*Michigan State University, East Lansing*

Dissertation title: “Projective Euler characteristic over weakly ramified Galois covers”

Advisor: Dr. Georgios Pappas

### B.S. in Mathematics

2013

*State University of New York at Stony Brook, Stony Brook*

### B.S. in Business and Statistics, dual degree

2010

*Sungkyunkwan University, Seoul*

## RESEARCH

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### Doctoral Researcher in Arithmetic Geometry

2020

*Department of Mathematics, Michigan State University*

- Showed the canonical existence of an equivariant sheaf with projective Euler characteristic on weakly ramified Galois covers of curves over integers, generalizing the work of T. Chinburg, B. Köck, B. Erez, and E. Noether.

### Industrial Mathematics Researcher in Data Science

2019

*Michigan State University and QED Environmental Systems*

- Data analyst role in “Predictive Modeling of Shipping Weights and Cost”, designing and building a shipping cost model based on the nationwide company sales history data.
- Joint project of MSU Industrial Mathematics Program and QED Environmental Systems.

## NON-ACADEMIC PROFESSIONAL EXPERIENCE

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### Data Analyst Internship

2009

*ECRA Group*

- Assisted analyzing K-12 education data to find correlations in student achievement in different subjects and performance indicators.

## TECHNICAL SKILLS & LANGUAGES

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**Programming languages:** Python, C++, JavaScript, MATLAB, Octave, R

**Other assets for data visualization:** HTML, Processing, SDL, Unity, DaVinci Resolve, GIMP

**Spoken languages:** Korean, English

- Have taught college mathematics for 16 semesters at MSU.

## HONORS AND AWARDS

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### **TA Award for Excellence in Teaching** 2018

*Department of Mathematics, Michigan State University*

- Awarded to 5 out of about 100 graduate TAs in the department for high performance in teaching and contributing calculus curriculum designs.

### **Dissertation Completion Fellowship** 2018

*Department of Mathematics, Michigan State University*

## TEACHING

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For 16 semesters of teaching at MSU, I have enjoyed being a science communicator inspiring students in: differential equations, all levels of calculus, calculus for non-engineering majors, calculus for AP students, introduction to formal mathematical proofs, and more proto-type calculus courses using technology in education.

### **Instructor & Teaching Assistant** 2013 – 2019

*Department of Mathematics, Michigan State University*

- Survey on Calculus (2014 – 2015)
- Calculus I (2014)
- Calculus II (2015, 2019)
- Calculus III (2013, 2015, 2016, 2017, 2018)
- Differential Equations (2015, 2016, 2018)
- Introduction to Mathematical Proofs (2016 – 2017)

## OTHER SERVICES AND MENTORING

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### **Tutor at Math Learning Center** 2013 - 2019

- Helped students visiting MLC learning math and solving problems by listening to their progress and providing tailored, student-focused 1-1 advice.

### **Lead TA at Math Learning Center** 2015

- General management to keep MLC functioning during semesters such as constantly checking tutor/student population ratio, monitoring changes in different rooms of MLC for better tutoring environment, mentoring new tutors, and occasionally helping difficult mathematical problems that the general MLC tutors are not usually suited for.
- Public review sessions for exams with 200 students.

### **Hair Donations** 2008, 2013, 2018

- Three donations made for children under cancer treatment.

### **Military Service** 2005 - 2007

- Republic of Korea Air Force.