

# Malcolm Lazarow

10 Fawn Court, Hillsborough, CA 94010  
T: 650-888-4236  
E: [malxmusician212@gmail.com](mailto:malxmusician212@gmail.com)

## Education

### **Northwestern University**

GPA 3.69/4.0

Bachelor of Science

- Engineering Sciences & Applied Mathematics, concentrated in Physics *with departmental honors*
  - Thesis Title: *Simulating Open Quantum Systems: Computational Condensed Matter via Graphics Processing Units*
- Pure Mathematics *with departmental honors*
  - Thesis Title: *Curvature on Principal G-Bundles: Differential Geometric Formalisms in Modern Physics*

Bachelor of Music

- Music Composition
  - *Some Sounds, Some Noises: A Senior Recital*

**Evanston, Illinois**

June 2017

## Research and Related Experiences

### **Undergraduate Researcher, The Koch Group, Northwestern University**

January 2016-June 2017

Implement studies of computational physics on GPUs, with applications in Condensed Matter Physics:

- Quantum Computation
  - Solve master equations for open quantum systems
  - Analyze time evolution of quantum bits such as fluxonium

### **Northwestern University Microgravity Team**

September 2013-June 2014

Member of a team that won a position in NASA's Microgravity University Program

- Designed an original cellular biology experiment to test the rate of polymerization of various types of actin
- Executed our experiment in zero gravity aboard NASA's Reduced Gravity Flight Program
- Given unrestricted access within NASA's Johnson Space Center

## Teaching Experience

### **Mathematics Teaching Assistant, Northwestern Mathematics Department**

September 2013-June 2017

*Recipient of the 2016 Excellence as an Undergraduate Teaching Assistant Award*

- Give weekly lectures covering course material
- Host biweekly office hours
- Proctor and grade examinations

Courses taught include:

- Math 220: Single Variable Differential Calculus
- Math 230: Multivariable Differential Calculus
- Math 234: Multivariable Integral Calculus and Vector Calculus
- Math 240: Linear Algebra

### **Mathematics Tutor and Coordinator, Northwestern Mathematics Department**

September 2014-June 2017

- Host open table tutoring for all core math courses offered at Northwestern
- Tend to administrative necessities
- Coordinate quarterly tutoring schedules

## Miscellaneous Experience

### **Music Composition and Production Intern, Paint House Music**

**Tijuana, Mexico**

June 2015-September 2015

- Wrote jingles and melodies to be used in commercials
- Produced and mastered music to be included in commercials

**Programming Languages:** PyCUDA, C++, Python, Matlab