

# EUGENE TSAO

eugenejtsao(at)gmail.com  
www.eugenetsao.com

## EDUCATION

### **Washington University in St. Louis**

Graduated May 2017

B.A. in Physics, Minor: German

Cum Laude with Thesis, GPA: 3.74

Dean's List: Fall 2013, Fall 2014—Spring 2017

### **Goethe-Institut**

Summer 2014, Göttingen, Germany

Göttingen Fellowship for German Language Study

## WORK & ACTIVITIES

### **Uncle Joe's Peer Counseling and Resource Center**

Social Chair, 2015—2016

Recruitment, 2014 & 2016

Served as crisis call-line and walk-in counselor 2014–2015; as social chair planned and expanded community building events including 3 day end-of-year retreat serving 40+ counselors.

### **LAUNCH Pre-Orientation**

Group Leader, 2014—2016

Led small (12 person) groups of freshman ("families") in team building and diversity related activities before the beginning of the academic year.

### **Asian Pacific Islander American Initiative**

Member, 2014—2015

Met with administrators and faculty to expand Asian and Pacific Islander American (APIA) related coursework and minority faculty hires.

### **Silver Leaf Farms**

Farmhand, June 2015, Corrales, New Mexico

Worked as a farmhand on a small, organic farm that delivers sustainable, locally grown produce to the Albuquerque area, and sold produce at local farmers markets.

## RESEARCH

### **Henriksen Experimental Physics Lab**

Research Assistant Fall 2015—Spring 2017

Delos Fellowship for Research in Physics  
Summer 2016

Thesis: *Classical Magnetic Frustration*

Designed, constructed, and analyzed an ensemble of interacting bar magnets that serves as a classical analogue to the quantum spin glass state, which is intimately connected to neural network theory.

- Extensive prototyping and machining in aluminum, brass, and plastic, including the use of SolidWorks CAD and CNC machining
- Fabrication of 156+ air bearing and floating magnet units to form a system of freely interacting, floating magnets capable of a variety of 2-D formations such as square, triangular, and kagome lattices
- Monte Carlo simulation of interacting finite-length dipole arrays and comparison with statics of experimental ensemble in 1-D chain and square lattice using Mathematica

Presented research at 2017 American Physical Society March Meeting.

## SKILLS

### **Computer Simulation**

Mathematical modeling in Mathematica and MatLab

### **Machining & Electronics**

Part design and fabrication in metal and plastic with lathe, mill, and CNC mill; as well as analog circuit design and construction

### **Languages**

English—Native Fluency

German—Professional Fluency