

**University Address**

5032 Forbes Ave, SMC 5696  
Pittsburgh PA, 15289-5696  
857-636-0911 (Cell)

**Yongyi Zhao**

yongyiz@andrew.cmu.edu | yongyizhao.com

**Permanent Address**

8 Cobblestone Way  
Billerica, MA 01862  
617-916-1232 (Home)

**Education**

---

**Carnegie Mellon University, Pittsburgh PA.**  
**Bachelor of Science in Electrical and Computer Engineering**  
**With University Honors**  
Overall GPA: 3.93/4.00

**Dec 2017**

**Research Experience**

---

**Carnegie Mellon University: Image Science Lab**

- ❖ **Supervisor:** Prof. Aswin Sankaranarayanan
- ❖ Researching, developing, and analyzing accuracy of computational camera models
- ❖ Developing prototype of spherical imaging device

**Jan 2017 – Present**  
**Pittsburgh, PA**

**Carnegie Mellon University: Inorganic Nanoparticles for Chiral Separation**

- ❖ **Supervisor:** Dr. Nisha Shukla
- ❖ Synthesize and characterize gold nanoparticles in chiral sensing/separation
- ❖ Establish procedure for reproducible production of faceted gold nanoparticles

**Oct 2014 – Dec 2017**  
**Pittsburgh, PA**

**Stony Brook University: Antibacterial Applications of Graphene/Polymer Blend**

- ❖ **Supervisor:** Prof. Miriam Rafailovich & Prof. John Jerome
- ❖ Established methodology for synthesizing antibacterial polymer structures
- ❖ Synthesized material that could puncture microbial films

**Jun – Aug 2013**  
**Stony Brook, NY**

**Northeastern University: Gas Sensing Properties of Functionalized Graphene**

- ❖ **Supervisor:** Prof. Swastik Kar
- ❖ Researched applications of graphene in vapor detection
- ❖ Developed gas sensing probes, using graphene, for detection of acetone

**Aug 2012 – Jun 2013**  
**Boston, MA**

**Northeastern University: Genetic Regulation of Cell Migration in *C. elegans***

- ❖ **Supervisor:** Prof. Erin Cram
- ❖ Utilized RNAi to study genetic regulation of distal-tip cell migration in *C. elegans*
- ❖ Established relation between specific gene sequences and migration patterns

**Jun – Aug 2012**  
**Boston, MA**

**Publications & Presentations**

---

Ozturk B., **Zhao Y.**, et. al. Atomically Thin Layers of BNCO with Tunable Composition. *Science Advances*. **1** (2015). <http://advances.sciencemag.org/content/1/6/e1500094>

**Zhao Y.**, Nuhfer, T., & Nisha Shukla. “Synthesis and Characterization of Tetrahedral Gold Nanoparticles.” Berg Symposium, Carnegie Mellon University. Doherty Hall, Pittsburgh, PA. 21 Sep 2015. Oral Presentation.

**Projects**

---

**Cartoon Interpolation Animator**

- ❖ Animate 2-D image using interpolation: manipulate using cage, skeleton, spline interpolation
- ❖ Implemented program in Python, using python image library for speed optimization and user interface

**Dec 2016**

**Racing Simulation using OpenCV Motion Detection**

- ❖ Presented as one of top 15 projects (of ~400 students) for 15-112 Spring 2015 Course

**April 2015**

- ❖ Used OpenCV library to create racing game that could read hand and feet motion of user as controls

## **Awards & Honors**

---

|  |                 |
|--|-----------------|
| <b>Andrew Carnegie Society (ACS) Scholar</b>   | <b>Sep 2017</b> |
| ❖ Recognized as one of 40 students from graduating class for academics, involvement and leadership |                 |
| <b>Eta Kappa Nu, IEEE Honor Society</b>  | <b>Nov 2017</b> |
| <b>Tau Beta Pi Engineering Honors Society</b>  | <b>Nov 2016</b> |
| <b>CMU Summer Undergraduate Research Fellowship</b>  | <b>May 2015</b> |
| <b>National Merit Scholarship Finalist</b>   | <b>May 2014</b> |
| <b>Siemens Science Competition Semifinalist</b>  | <b>Oct 2013</b> |
| ❖ Selected as semifinalist (300 total) for outstanding original research report                    |                 |

## **Work Experience**

---

|  |                            |
|--|----------------------------|
| <b>Teaching Assistant (TA), 18-240 at Carnegie Mellon University</b>                       | <b>Aug 2017 – Present</b>  |
| ❖ Lead lab section of 30 students, weekly project to deepen students' understanding        | <b>Pittsburgh, PA</b>      |
| ❖ Perform course-support tasks: grading, tutoring at office hours, leading review sessions |                            |
| <b>Software Development Engineer Intern, Amazon.com</b>                                    | <b>May 2017 – Aug 2017</b> |
| ❖ Working on Amazon AWS, Elastic Compute Cloud Team  | <b>Seattle, WA</b>         |
| ❖ Designing and implementing container service   |                            |
| <b>Teaching Assistant (TA), 15-112 at Carnegie Mellon University</b>                       | <b>Aug 2016 – Dec 2016</b> |
| ❖ Lead recitation of 20 students, weekly lecture to deepen students' understanding         | <b>Pittsburgh, PA</b>      |
| ❖ Perform course logistics: grading, tutoring at office hours, leading review sessions     |                            |

## **Skills**

---

### **Programming/Computing:**

- ❖ **Strong:** Python, C, SystemVerilog
- ❖ **Proficient:** C++, Matlab, Linux
- ❖ **Limited:** Version Control (Git), Qt

**Languages:** Fluent in English and Chinese (Mandarin)

## **Volunteer Activities**

---

|   |                            |
|---|----------------------------|
| <b>Mentor, Higher Achievement</b>   | <b>Oct 2014 – May 2017</b> |
| ❖ Tutored group of 2-5 middle school students in project design and scientific method |                            |
| ❖ Created and implemented projects to teach programming and experimental design       |                            |