

Katherine Huang

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Education

University of Massachusetts Lowell (2017–)

- Courses: Discrete Structures I, Honors Chemistry I-II, Chemistry I-II Lab

Lowell High School (2015–2019 expected) (*Honors Program*)

- Class rank: 2/800; unweighted GPA: 4.0
- Advanced Placement courses: Statistics (self-study), Computer Science (self-study), Calculus BC, Physics 1, US History, European History, Latin

Research Experience

Harvard University | *Supervisor: Dr. Evelyn Hu* (Jun–Aug 2017)

- Performed and analyzed computational simulations of band structures of quantum dots and wells
- Refined protocol for selective etching of nanoscale semiconductor laser cavities
- Gained familiarity with cleanroom nanofabrication facility and scanning electron microscopy

University of Massachusetts Lowell | *Supervisor: Dr. Valeri Barsegov* (Nov 2016–Apr 2017)

- Ran docking and molecular dynamics simulations of potential drugs for botulism
- Third Place at **Massachusetts State Science and Engineering Fair 2017**

Middlesex Community College | *Supervisor: Professor Kimberly Gonzalez* (Jan–Mar 2016)

- Investigated effect of burned PVC on *E. coli* transformation and antibacterial resistance
- [Published](#) in *Journal of Emerging Investigators*

Skills

- **R, Python (Biopython, Django), Javascript (D3.js)**, Java, HTML, CSS, bash, LaTeX, git
- Molecular docking and dynamics; bacterial transformation, plasmid isolation and purification, DNA quantitation, site-directed mutagenesis, gel electrophoresis, polymerase chain reaction

Activities and Awards

- **Junior Science and Humanities Symposium:** Southern New England 2nd Place Winner
- **National Center for Women & IT Aspirations in Computing Award:** Massachusetts Winner
- Member of **FIRST Robotics Competition** Team 5962 perSEVERE, interviewee and winner of **New England District Championship Chairman's Award**
- **Hackathons:** SheHacks (Winner), MIT Blueprint (Runner-Up), CodeDay (Winner), MetroHacks (Winner)
- President of Model United Nations Club and Chess Club
- National Latin Exam: Perfect Paper (2016), Gold Medal (2015–2017)

Community Service

MAHacks (mahacks.com) | *Director* (Apr 2018–), *Organizer* (Sep 2017–)

- Maintain website and registration platform, contact potential sponsors and students, and help run logistics for high school hackathon in Boston

Science & Us (scienceandus.org) | *Founder and Director* (Feb 2018–)

- Plan event to teach high schoolers about science communication and careers in making complex ideas understandable and exciting to the public
- Recruit organizers, workshop presenters, speakers, and participants

National High School Journal of Science | *Peer Reviewer* (April 2018–)