
Laura Cui

Montgomery Blair High School
Science, Mathematics, and Computer Science Magnet Program
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Research Experience

SEPTEMBER 2017 - PRESENT

CubeSat, Montgomery Blair High School - *Co-founder, Scientific Initiatives*

- Develop scientific initiatives and integrate data collection with satellite design
- Help coordinate CubeSat proposal writing for the November 2018 proposal cycle

JUNE 2017 - AUGUST 2017

Space Science Division at Naval Research Laboratory, DC - *Student Intern*

- Science and Engineering Apprenticeship Program (SEAP)
- Mentor: Dr. Andrew Stephan (Geospace Science and Technology)
- Processed data from Limb-imaging Ionosphere and Thermosphere EUV Spectrograph (LITES) experiment on ISS
- Performed attitude determination for LITES instrument viewing geometry using near-real time orbit data from the ISS

SEPTEMBER 2016 - JANUARY 2017

Sophomore Science Research Project at Montgomery Blair High School

- Implemented VSOP87 in Java using constants generated by Neoprogrammics
 - Adapted to calculate orbital elements for spring equinox
 - Analyzed deviations of Newcomb's calculations with respect to time
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Education

Montgomery Blair High School, Silver Spring, MD

Science, Mathematics, and Computer Science Magnet Program
Junior

- 4.0 unweighted GPA
 - Relevant coursework: Magnet Physics, Magnet Earth and Space Systems, Calculus BC Equivalent, Multivariable Calculus and Differential Equations
 - Extracurricular activities: Astronomy Club (co-founder), Physics Team (co-captain), CubeSat, Math Team, Science Bowl, National Art Honor Society
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Additional Skills

- Strong background in problem-solving and mathematics, including knowledge of calculus, partial differential equations, and linear algebra
- Basic knowledge of physics and astronomy
- Knowledge of classical mechanics
- Basic knowledge of celestial mechanics and general and special relativity

- Strong programming skills including Python, Java, and Matlab
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Awards and Honors

Research

2017

Science and Engineering Apprenticeship Program 2nd Place Award

For excellent presentation of apprenticeship project

Mathematics

2016, 2017

American Mathematics Competition Certificate of Distinction

For superior performance on the American Mathematics Contest and qualifying to compete in the American Invitational Mathematics Examination

Received by students scoring in the top approximately 2.5% on the AMC 10

2016

American Mathematics Competition Certificate of Achievement

Awarded to students in grade 10 or below for score of 90 or above on the American Mathematics Contest 12

2015

American Mathematics Competition Certificate of Achievement

Awarded to students in grade 8 or below for score of 90 or above on the American Mathematics Contest 10

Other

SEPTEMBER 2015 - PRESENT

Principal's Award for Academic Excellence - For maintaining a 4.0 GPA

2017

Maryland Science Bowl High School Regional Competition Second Place

Montgomery Blair High School Science Bowl Team B

2017

Maryland Envirothon 3rd Place Team - Montgomery County Team