ALUMNI SPOTLIGHT

ARMY EDUCATIONAL OUTREACH PROGRAM

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MARY CATHERINE LORIO

HIGH SCHOOL APPRENTICESHIP PROGRAM ALUMNI

High school senior planning to study physics and computer science.

WORDS OF ADVICE

I strongly encourage anyone to apply for an apprenticeship. You never know the opportunities that will come as a result of participating in AEOP if you just follow your passion!

AEOP has enabled me to contribute to the development of this innovative technology that I have been interested in for as long as I can remember.

BEST THINGS ABOUT THE PROGRAM

Through HSAP, I learned many things both about myself and my area of research. My passion for learning increased exponentially, as well as my confidence to always question as I learn. Through AEOP I have been exposed to a broad range of opportunities; I have competed in several science fair competitions around the nation, including AEOP's Junior Sciences and Humanities Symposium (JSHS), the International Sustainable Worlds Symposium (ISWEEEP), as well as Intel International Science and Engineering Fair (ISEF). I am very grateful to Louisiana State University (LSU) for providing the facilities where I conducted my research apprenticeship. LSU is filled with motivated students and inspirational research professionals, like my mentor Dr. Jonathan P. Dowling who continues to inspire me.

HOW PARTICIPATING IN AEOP INSPIRED YOU TO ADVANCE IN STEM

We use computers on a daily basis. However, there is currently a global race to build another type of computer, known as a quantum computer. Instead of behaving like our current computers that use classical mechanics, quantum computers operate using the laws of quantum mechanics. Classical computers send information in bits, represented by either zero or one whereas, quantum computers send information in qubits (quantum bits), which can be represented by both zero and one simultaneously. Because of this property, quantum computers would be more powerful than even supercomputers. AEOP has enabled me to contribute to the development of this innovative technology that I have been interested in for as long as I can remember. My research focused on how a measuring device called the Quantum Eraser can theoretically erase and recover qubits. My project indicates that the Quantum Eraser can play a vital role in the development of quantum computers.

Each month AEOP features one of our program participants and future STEM leaders. Read what these alumni have learned and what they are up to now. If you're an AEOP alumni and want to tell your story visit us here: **www.surveymonkey.com/r/AEOPAlumniSpotlight**