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# Avery Karlin

*High School Student*

## WORK EXPERIENCE

### High School Intern, Metropolitan Museum of Art

New York, NY — 2015-2016

During the previous summer and the current school year, at the Metropolitan Museum of Art, I worked under Dr. Marco Leona in the Department of Scientific Research on building an inkjet based SERS sensor for environmental analysis and homeland security applications for the detection of chemical weapons, culminating in work for a scientific journal submission.

#### Accomplishments

- Built and designed a piezoelectric inkjet system, for mounting on a raman spectroscopy microscope
- Optimized substrate preparation for ideal signal accumulation
- Tested on various environmental pollutants and toxic substances for signal analysis

### High School Intern, Metropolitan Museum of Art

New York, NY — 2014

During the summer before last, at the Metropolitan Museum of Art, I worked under Dr. Marco Leona in the Department of Scientific Research on building a multispectral imaging device, and programming it to function, for the purpose of being able to take multispectral reflectance block scans of artwork, to analyze the pigments used to produce the artwork.

#### Accomplishments

- Continued building and development of a multispectral imaging device for material analysis of artwork
- Learnt MATLAB scientific programming language for coding of device

### High School Intern, DOROT

New York, NY — 2012-2014

During the summer of 2012, 2013, and the school year of 2013-2014, I worked as an intern at DOROT, a Jewish non-profit dedicated to helping homebound or isolated seniors, providing services, home visits to give company or on their birthdays, and intergenerational programs to provide awareness of problems facing seniors.

#### Accomplishments

- Tutored seniors in use of electronics, such as cell phones, laptops, or tablets
- Participated in and ran several intergenerational discussion groups about current events

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# Avery Karlin

*High School Student*

## EDUCATION

### Stuyvesant High School

New York, NY — 2012-2016

One of the most prestigious math-science high schools in New York City, where I was able to take classes including Multivariable Calculus, Differential Equations AP Calculus BC, System Level and Graphical Programming, AP Computer Science A, AP Physics C Mechanics and Electromagnetism, AP Latin, and AP Macro and Microeconomics.

## SKILLS AND INTERESTS

- Languages
  - Native speaker in English
  - Proficient in Classical Latin
- Programming
  - Skilled in Java, C, and LaTeX
  - Proficient in Python, MATLAB, HTML, CSS, and Bash
  - Skilled in Vim and Git software
- Physics and Math
  - Basic Calculus-Based Mechanics, EM, Waves, and Quantum Mechanics
  - Linear Algebra, Multivariable Calculus, Ordinary Differential Equations
- Leadership
  - Undersecretary of Technology (in charge of innovation for teaching public speaking and management of technological resources) and Director of Interior for StuyMUNC (in charge of managing conference logistics), previously Director of Logistics for StuyMUNC (in charge of managing conference finances), in the Stuyvesant Model UN
  - Member of the DOROT Next Generation Leadership Board (in charge of planning intergenerational events)
  - Founder and President of the Stuyvesant Physics Society (in charge of planning meetings and getting speakers to discuss current developments in physics research)
- Personal Interests
  - Science Fiction, High Fantasy
  - Psychology, Political Science, Philosophy
  - Logic, Computer Science
  - Chess

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