

**Jake Nieto**  
**5 Marvin Lane, Commack, New York 11725**  
**(631) 499-4520**  
**jake.a.nieto@gmail.com**

**Education**

Commack High School  
One Scholar Lane  
Commack, NY 11725

**Honors and Awards**

Rensselaer Polytechnic School Medalist 2017--- \$100,000 Scholarship for achievement in science and math.

High Honor Roll-	2012----Present
NYSSEF	2017 – 3 <sup>rd</sup> place for “ <i>An Empirical Biomarker-based Calculator for ARPKD</i> ”
LISEF	2017 – 3 <sup>rd</sup> place for “ <i>An Empirical Biomarker-based Calculator for ARPKD</i> ”
WAC Science Fair	2017 – Merit for “ <i>An Empirical Biomarker-based Calculator for ARPKD</i> ”
Science Olympiads	2016/17/18 – Regionally ranked in <i>Cell Biology, Anatomy and Physiology, Microbes, Chemistry Lab, and Hovercraft.</i>
WAC Science Fair	2016 - 3 <sup>rd</sup> place for “ <i>MediAlarm: An Alarm System Application to Aid Those with Memory Degenerative Disorders and Cognitive Impairment with Taking prescription Medication</i> ”
Nassau Community College Science Fair	2016 – 3 <sup>rd</sup> place for “ <i>MediAlarm: An Alarm System Application to Aid Those with Memory Degenerative Disorders and Cognitive Impairment with Taking prescription Medication</i> ”
Spanish Achievement Award	2016/17 - <i>Teacher Nominated Student of the Year; Academic excellence</i>
Science Achievement Award	2016 - <i>Teacher Nominated Student of the Year; Academic excellence (Chemistry)</i>
Student Ambassador	2015- <i>Selected to represent Commack’s science research department to the international guests from Hong Kong, China.</i>
Math Achievement Award	2015 - <i>Teacher Nominated Student of the Year; Academic excellence (Geometry)</i>
Molloy College Science Fair	2015 - <i>Honorable Mention for “A Comparative Analysis of Phytoplankton Populations and the Variables Which Influence Them in the Arctic and Pacific Northwest” (Top 10%)</i>
Junior Varsity, Long Island Science and Engineering Fair	2015 – <i>Honorable Mention for “A Comparative Analysis of Phytoplankton Populations and the Variables Which Influence Them in the Arctic and Pacific Northwest”</i>
Long Island Science Congress	2015 – <i>Honorable Mention for “A Comparative Analysis of Phytoplankton Populations and the Variables Which Influence Them in the Arctic and Pacific Northwest”</i>
National History Day	2014 - <i>Silver Medal Recipient for “Rights and Responsibilities: The Japanese American Internment”</i>
Long Island Math Fair	2014 - <i>Gold Medal Recipient (Mathematics in Sonar Systems)</i> 2013 - <i>Bronze Medal Recipient (Math Contributions of Ancient Greece)</i>

Science Achievement Award	2014 - <i>Teacher Nominated Student of the Year; Academic excellence (Earth Science)</i>
Social Studies Departmental Award	2014 - <i>Head Chairman Nominated, Student of the Year (Single recipient of 570 students)</i>
Social Studies Achievement Award	2013 - <i>Teacher Nominated Student of the Year; Academic excellence (U.S. History)</i>
English Achievement Award	2013 - <i>Teacher Nominated Student of the Year; Academic excellence</i>
Cougar Character Award	2014, 2013

## **Research Experience**

## **Grade**

Simons Program., Under Dr. Steven Glynn Current  
*"A Computational Analysis of medicinal Cannabinoids and other Ligands that Bind to Liver Fatty Acid Binding Protein"*

- Research in developing pain therapies through use of the endocannabinoid system and fatty acid binding protein inhibition

Angion Biomedica Corp., Under Dr. Prakash Narayan 10/11  
*"Renal Parenchymal Area and Kidney Collagen Content in a Murine Model of Chronic Kidney Disease"*

- Research in CKD and mathematical modeling.
- Correlated kidney collagen content with renal area.

### **Published in:**

- arXiv
- PLOS One

Angion Biomedica Corp., Under Dr. Prakash Narayan 10/11  
*"An Empirical Biomarker-based Calculator for Cystic Index in a Model of Autosomal Recessive Polycystic Kidney Disease – The Nieto-Narayan Formula"*

- Research in ARPKD and mathematical modeling.
- Used preexisting data and quantified the relationship between ARPKD and urine/serum biomarkers.

### **Published in:**

- bioRxiv
- arXiv
- PLOS One

Commack High School, Under Mr. Richard Kurtz 10  
*"Developing an App to Aid Those with Memory Degenerative Disorders and Cognitive Impairment with Taking Prescription Medication"*

- Research in Computer Science/Engineering (Present).
- Using MIT App Inventor to create an app geared towards patients with memory loss to assist and increase patient independence. The app is specifically geared with medicine intake.

Commack High School, Under Mr. Kurtz 9  
*"A Comparative Analysis of Phytoplankton Populations and the Variables Which Influence Them in the Arctic and Pacific Northwest"*

- Research in Environmental Sciences.
- Used an online database (Ocean Networks Canada) to compare the phytoplankton growth in the Arctic circle, and an urban area in the Pacific Northwest. Made implications about the possibility of hypoxia in oceans if there is an increase in global warming.

## **Community Service**

## **Grade**

Interact Club (Rotary)	11, 12
Pay It Forward Club, 2015	9
Volunteered at Saint Baldrick's, 2015	9

I Love My Park Day	10/11
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**Extra Curricular Activities**

Science Olympiads	10, 11, 12
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Science Honor Society (President)	11, 12
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Math Honor Society	11, 12
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History Honor Society	11, 12
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Spanish Honor Society (President)	11, 12
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Environmental Awareness Club	11, 12
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Gardening Club Vice President/President <i>(Grows food which is eventually given to a local food pantry)</i>	10, 11, 12
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Marching Band <i>(Trumpet: Contemporary)</i>	9, 10, 11, 12
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Mock Trial <i>(Attorney/Witness)</i>	10, 11, 12
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Stage Band <i>(Trumpet: Jazz)</i>	9, 10
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Wind Ensemble <i>(Percussion: Classical)</i>	10, 11, 12
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National Honor Society	11, 12
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