Hossam Zaki

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Education

Brown University | Sc.B Computational Biology Candidate| PLME| GPA 3.95/4.0 *Providence, RI, May 2022*

- Relevant Coursework**:** Introduction to Object-Oriented Programming, Introduction to Data Structures and Algorithms, Arabic 1 & 2, Experimental VR, Practical System Skills, Computational Molecular Biology
- Scholarships: Jackie Robinson Foundation Scholar, American Chemical Society Scholar, 2019 Merck ACS Scholar

South Kingstown High School *South Kingstown, RI, June 2018*

- Class of 2018 Valedictorian (5.25 out of 5.33 weighted GPA, 4.0 unweighted)

Skills

Technical: Proficient in Java, Python, R, Git, and Bash. Currently learning C, JavaSQL, C#, JavaScript, HTML & CSS
Languages: English, Arabic, Spanish

Summer Programs and Work Experiences

Protein Data Bank of Europe | Software/Biological Intern *Cambridge, UK, Summer 2019*

- Developed a pipeline to superpose protein structures in a UniprotKB Accession, cluster the proteins based on structure similarity, and show them visually on PyMol
- Designed Algorithm using Python and JavaSQL and analyzed data based on Hierarchical Clustering techniques
- Compiled the algorithm on over 47,000 Uniprot Accessions which included over 350,000 PDBe entries
- Co-authored and published a paper to Nucleic Acids Research titled "PDBe: Improved findability of Macromolecular structure data in the PDB"

Brown University Molecular Biology/Wessel Lab | Undergraduate Researcher *Providence, RI 2017 – Present*

- Researched the effect of Sea Star Wasting Disease on the embryonic development of Sea Star and Sea Urchin
- Micro-injected oocytes with Viral RNA and DNA to collect data though Western Blot and Quantitative PCR for statistical analysis with Python and R
- Co-authored an abstract presented in Developmental Biology of the Sea Urchin Conference titled: "Bisphenol A exposure differentially affects echinoderm embryogenesis. Developmental Biology of the Sea Urchin"

Leadership Experience

Warren Alpert Medical School | Volunteer *Providence, RI, Summer 2017 - Present*

- Shadowed doctors in different specialties and would help around different offices at Rhode Island Hospital

Boys and Girls Club of Rhode Island | Volunteer *Providence, RI , Summer 2018, 2019*

- Prepared several lessons on topics such as Global Warming, simple chemical reactions, and recycling

LaGuardia Community College | Volunteer *New York City, NY, Fall 2018*

- Presented to students on how to get research opportunities and resume writing

STEM to Help | President and Founder *South Kingstown, RI, Fall 2014 - Spring 2018*

- Developed and created a non-profit organization to inspire high school students to become scientists, and to raise money to help educate children all over the world. Sponsored a school in Senegal through a multitude of fundraisers such as STEM Nights, bazaars, school supplies drive, and yard sales.

Boy Scouts of America | Eagle Scout *South Kingstown, RI, Fall 2012 – Fall 2017*

- Built an outdoor classroom, which is still used today, and renovated a long hallway in my local middle school

Other Employment

Schepens Eye Research Institute/Harvard Medical School | Intern *Boston, MA, Summer 2016*

- Studied the effect of the RORa gene on Age-Related Macular Degeneration by observing differences in retinal tissue of several mutant mice
- Conducted tests including Immunohistochemistry and quantification using a fluorescent microscope
- Designed a poster and presentation for Harvard University Summer Research Symposium

University of Rhode Island | Intern *Kingston, RI , Summer 2015*

- Wrote and published a paper in Scientific American titled, "An environmentally friendly procedure for the aqueous oxidation of benzyl alcohols to aldehydes with dibromodimethylhydantoin (DBDMH) and cyclodextrin"
- Presented a poster at the SURF symposium in University of Rhode Island