

Sammy Mustafa

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EDUCATION

Northwestern University | Evanston, IL

Honors Program in Medical Education (HPME)

Anticipated June 2023

Bachelor of Arts in **Biological Sciences**, Concentration in **Computational & Systems Biology** | Minors: **Data Science & Linguistics**

GPA: 3.91/4.00 | Dean's List

Relevant Courses: Organic Chemistry, Molecular & Cell Biology, Genetics & Evolution, Biochemistry, Bioinformatics, Biostatistics, Computer Programming, Data Science (R), Data Visualization, RNA Sequencing, Functional Genomics, Text Processing

RESEARCH EXPERIENCE

Northwestern University, Feinberg School of Medicine | Chicago, IL

Research Fellow, Vaughan Lab

March 2021 – Present

- Exploit the RNA-binding protein SERBP1 to combat PAI-1 induced fibrosis, senescence, aging, and Alzheimer's *in vitro*
- Attempt to mimic transgenerational epigenetic prion-mediated PAI-1 destabilization
- Model and visualize genomic, plasma, and genealogic data from Amish community with unique null mutation

Polytechnic University of Catalonia, Department of Physics | Barcelona, Spain

Research Assistant, Computational Biology and Complex Systems Lab

June 2022 – September 2022

- Designed mathematical and spatial resolution models of the cAMP-PDE signaling pathway in atrial myocytes via MATLAB
- Developed differential formulas to model the autonomic effects of atrial fibrillation risk variant rs13143308T
- Investigated the modulation of the PDE1-Adenosine A_{2A} macromolecular cluster on sarcoplasmic/cytosolic calcium levels

Yale University, School of Management | Remote Work

Research Assistant, Behavioral Research Lab

March 2022 – July 2022

- Collaborated with an inter-institutional team of professors investigating the effectiveness of negotiation strategies
- Cleaned, explored, and analyzed housing negotiation data to identify the linguistic behaviors that produce optimal outcomes for buyers and sellers; compared the source of reduced variance in verbal vs. non-verbal experiments

NYU Langone, Department of Surgery | New York, NY

Research Assistant, S. Arthur Localio Laboratory

July 2019 – March 2020

- Investigated immune regulators of pancreatic cancer and liver disease *in vitro* alongside post-docs and PhD candidates
- Studied the migration of fungi from the gut lumen to the pancreas in a model of pancreatic ductal adenocarcinoma *in vivo*

Hackensack University Medical Center, Clinical Research Center | Hackensack, NJ

Research Assistant, ICU Sleep Quality Study

May 2019 – March 2020

- Conducted clinical research to identify and address sources causing sleep deprivation in several ICU units
- Enrolled over 50 patients in clinical studies, developed & administered questionnaires, and wrote four literature reviews

Bergen County Academics, Cell Biology Research | Hackensack, NJ

Research Fellow, Cell Biology Lab

September 2016 – June 2020

- Studied the PTEN pseudogene in regulating the PI3K/Akt pathway in glioblastomas via miRNA repression *in vitro*
- Utilized bacterial transformation, transfection, qRT-PCR, indirect ELISA, flow cytometry, autophagy detection assay, vascular-endothelial tube formation assay, and Transwell migration assay techniques

HONORS & AWARDS

HPME (2021) and Weinberg (2022) Summer Research Grants

2nd Place – Biochemistry, BCA Research Exposition

Regeneron Science Talent Search Scholar 2020

Thermo Fisher Scientific Antibody Scholarship

SKILLS

Languages – R | Python | SQL | Unix | HTML | JavaScript

Technologies – Machine Learning/AI | Git | Data Visualization | EPA | Microsoft Office

Spoken Languages – Spanish (Intermediate) | Arabic (Beginner)

WORK EXPERIENCE

Northwestern University Residential Services | Evanston, IL

Resident Assistant

August 2021 – Present

- Oversee 44 residents, serve overnight duty shifts, work the front desk, and develop community builder events
- Represent the RAs on the RA Advisory Board, advocate for adjustments to the position and services

LEADERSHIP EXPERIENCE

Embroidery Club – Founder and Co-President

November 2021 – Present

NU PenPals Club – Founder and President

June 2021 – Present

Varsity Hurdler on Indoor and Outdoor Bergen Tech Track Team – Captain

November 2016 – March 2020

Boy Scouts of America – Eagle Scout

September 2007 – June 2020