

Isabella Jabbour

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Education

University of Pennsylvania, *School of Engineering & Applied Science*

GPA: 3.9/4.0

Bachelor of Science Candidate, Undecided

Philadelphia, PA

May 2028

Edgemont Jr./Sr. High School

GPA: 5.78/5.0

- Honors: 2024 Cum Laude Speaker (in top 1% of graduating class); National Merit Semifinalist; International Genius Olympiad Finalist (Environmental Science); Dartmouth Book Award; National High School Model United Nations, Best Delegate Award (1 of 100);
- Activities: Head Delegate, Model United Nations; Varsity Tennis; Lead Instructor, Math Olympiad; Creative Director, Webmaster & Contributing Writer, *Campus* (School's Print & Online Newspaper)
- AP Courses: European History (5), Biology (5), US History (5), Calculus BC (5), Macroeconomics (5), Government and Politics (5), Physics C: Mechanics (4)
- SAT: 1570 (Math: 800, Verbal: 770)

Scarsdale, NY

June 2024

Johns Hopkins Center for Talented Youth (CTY), *The Study of Exceptional Talent (SET)*

Dual-Enrollment

- Qualified based on scoring in 97th percentile on the SAT at age 12

Baltimore, MD

July 2018

University of Pennsylvania Involvement

Penn Undergraduate Biotech Society (PUBS)

Consultant

- Offering a pro-bono market research and assessment for early stage, pre-clinical biotechnology or medical device startups by analyzing the treatment paradigm to inform unmet needs in the space
- Understands the market opportunity for the product, competitive landscape, and identifies the parameters investors would seek such as pricing, market penetration, and market size projections
- Clients include Tris Pharmaceuticals and Nobias Therapeutics

Philadelphia, PA

Sept 2024 - Present

Other Involvements: Marketing Undergraduate Student Establishment (MUSE); Wharton Undergraduate Healthcare Club (WUHC); WALK Magazine; Wharton Undergraduate Retail Club; Medical Volunteers for Prevention; Penn Magnolia Project

Work Experience

J-RAD Lab, Perelman School of Medicine

Biomedical Researcher - Department of Cell and Developmental Biology

- Exploring how stem cell-derived pancreatic islet organoids could revolutionize diabetes treatment
- Creating a renewable, limitless source of islets for diabetes treatment, overcoming the challenges of donor scarcity and quality

Philadelphia, PA

Dec 2024 - Present

Regeneron Pharmaceuticals, *Regeneron High School Mentorship Program*

Research Scholar (1 of 20), Drug Development Intern - Therapeutic Proteins Department

- Actively contributed to groundbreaking experiments for a hemophilia CRISPR drug, playing a key role in its progress towards FDA approval
- Conducted an independent study on the efficiency and specificity of an engineered CRISPR-Cas9 mutant, analyzing on-target editing rates and investigating off-target effects
- Explored innovative gene-editing techniques to minimize off-target effects, leading to a publication in The Journal for Emerging Investigators (July 2023)

Tarrytown, NY

June 2022 - June 2024

Phatnani Lab, Columbia University,

Cell-Biology and Cellular Senescence Researcher, Tissue Mapping Center

- Engaged in cutting-edge research to identify and analyze senescent cells in the spinal cord, using advanced molecular assays, imaging, and immunostaining techniques on mouse tissue samples
- Conducted comprehensive assessments of cell cycle inhibitors, inflammation markers, and DNA damage to understand the characteristics and behaviors of senescent cells
- Contributed to the NIH's SenNet Program by analyzing spatial transcriptomics data from human spinal cord and frontal cortex tissues of ALS patients

New York, NY

June 2023 - Sept 2023

Dr. Glenn Gaudette, Boston College

Biological Engineering Researcher

- Assessed the viability of decellularized plant material as scaffolds for cultured meat growth, focusing on sustainable meat production solutions to meet global demand by 2050
- Developed a novel method using ocean water as an alternative to deionized water in the decellularization process, aiming to reduce freshwater usage for large-scale production
- Presented findings at international science conferences, advancing the understanding of cultured meat production and scaffold development

Boston, MA

Aug 2022 - Sept 2022

Johns Hopkins University

Published Researcher & Data Analyst

- Conducted a pioneering study on the influence of e-cigarettes, using real-time simulations to assess the impact of peer and population dynamics on smoking behavior
- Designed and implemented an innovative agent-based simulation model, exploring social influence within peer networks and its contribution to overall smoking behavior
- Published the study in The National High School Journal of Science (June 2023)

Baltimore, MD

June 2021 - Aug 2021

Projects

President & Founder, Westchester Green County USA

All schools carbon neutral by 2025 & net-zero by 2045

- Led the initiative to make all schools in Westchester County carbon neutral by 2025, with a roadmap to achieve 50% net-zero by 2030 and 100% by 2045
- Collaborated with international organizations like UNFCCC, UK Let's Go Zero campaign, and New Buildings Institute to advance sustainability efforts
- Secured over \$3M in funding for sustainability projects across six underserved school districts
- Established an international model for climate action, influencing schools in Wales, and China
- Invited to speak at a U.S. Capitol rally by Senator Markey and Congressman Bowman, drawing an audience of over 1,000 attendees

Westchester, NY

Aug 2020 - Aug 2024

Executive Director, Students Against Nicotine

Deputy Executive Director (10), Assistant Director of Legislative Advocacy (9)

- Spearheaded a nationwide campaign to create a nicotine-free youth population through education, networking, community outreach, and legislative advocacy
- Collaborated with federal and state legislators, including Senate Majority Leader Chuck Schumer and Senator Kirsten Gillibrand, to shape policies targeting teen tobacco and e-cigarette use
- Designed and implemented a peer-to-peer drug prevention education curriculum for schools, leading outreach and training sessions for substance abuse prevention professionals
- Played a key role in the enactment of New York's statewide ban on flavored e-cigarettes and Tobacco 21 legislation
- Testified as the sole youth organization representative at a NYS Senate Hearing on E-Cigarette Use, contributing to executive actions with Governor Cuomo and the Department of Health

New York, NY

Sept 2019 - Aug 2024

Vice President, Westchester County Youth Board

Board Member (10)

- Appointed to the Youth Board, advising Westchester County Executive George Latimer on youth and family-related policies and initiatives
- Evaluated grants and developed programs for socioeconomically disadvantaged students, leading comprehensive needs assessments and youth priority reports
- Elected as Vice President, administering an annual youth awards program and organizing events (MedTech Conference and International Day of the Girl), each attracting over 500 attendees
- Partnered with the Westchester County Department of Health on a \$3M tobacco prevention initiative, in collaboration with the Youth Bureau

Westchester, NY

Aug 2021 - Aug 2024

Other Involvements: Sole Student Representative, Greenburgh Municipal Conservation Advisory Council; Co-Founder & Webmaster, Youth for Climate Migrants

Recognition

Awards

Southern Westchester LHCOSS Scholarship Finalist — *Lower Hudson Council of School Superintendents*

May 2024

- Recognized as one of the top two students from every school in the region

2024 Regeneron STS Scholar — *Society for Science*

Jan 2024

- Named a top 300 scientist in the nation by the Regeneron Science Talent Search

Bryan Cameron Impact Scholarship Finalist — *Bryan Cameron Education Foundation*

Dec 2023

- 1 of 76 finalists chosen out of 3,000 applicants; merit-only scholarship

Publications

- **Jabbour, I.** and Lee, K. Evaluating Efficiency and Specificity of SpCas9 and HiFi Cas9. *Journal of Emerging Investigators*, Accepted for publication, July 2023.
- **Jabbour, I.** (2023). Policy Effects on E-Cigarette Behaviors Among High School Students: Agent-based Simulations. *The National High School Journal of Science*, [Link to paper](#)

Presentations

- 18th International Conference on Alzheimer's & Parkinson's Diseases (2024)
- 9th Int'l Conference on Mechanics of Biomaterials & Tissues (2023)
- International Conference on Agricultural and Food Science Research (2023)
- The 18th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES)) (2023)