

# Zach Gillis

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## EDUCATION

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### University of Chicago

Chicago, IL

*Bachelor's of Arts in Physics, Bachelor's of Science in Mathematics*

Sep. 2021 – June 2025

- GPA: 3.864
- Dean's List 2021-2022

### Walter Payton College Preparatory High School

Chicago, IL

*High School Diploma*

Sep. 2017 – June 2021

- GPA: 5.4 (weighted), 4.0 (unweighted)
- SAT: 1580

## EXPERIENCE

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### Research Assistant

Oct. 2022 – Present

*Zhong Lab – University of Chicago, Pritzker School of Molecular Engineering*

Chicago, IL

- Working in lab focused on quantum engineering, specifically quantum networks and optics
- Assisting project focused on microwave to optical transduction to transmit quantum states through fiber-optic cables

### Research Assistant

June 2022 – Aug. 2022

*National Radio Astronomy Observatory (NSF REU Site)*

Charlottesville, VA

- Selected to competitive internship focused on radio astronomy, astrophysics, and programming for data science applications, and attended seminars on radio interferometry, new findings in astrophysics and astrochemistry, and data visualization
- Completed project examining baseline-dependent averaging (BDA) to reduce the computational requirements of the Next Generation Very Large Array (ngVLA)
- Helped create Python package for BDA and author the ngVLA computation whitepaper

### Research Intern

June 2021 – Aug. 2021

*Northwestern University, Lurie Cancer Center (through ResearchHStart)*

Chicago, IL

- Selected to competitive research internship program focused on cancer research and bioinformatics
- Completed a project using R on exercise-induced gene expression and the pathways perturbed by those changes
- Presented project at research symposium and awarded best poster among 27 ResearchHStart participants

## ACTIVITIES

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### Math Circles of Chicago | Math Teacher

Feb. 2022 – Present

- Responsible for teaching math and statistics classes for high school students

### UChicago Robotics | Team Member

Oct. 2022 – Present

- Member of selective team competing in national robotics competitions

### UChicago Science Olympiad | Community Outreach Director, formerly Technology Coordinator

Sep. 2021 – Present

- Organizes community outreach workshops, coordinates with local public schools, plans events for visiting teams

### Dougan-Niklason House Council | Wellness Coordinator

Sep. 2021 – Present

- Works with UChicago Student Wellness to promote wellbeing initiatives in campus housing to 140 housemates

### Walter Payton Math Team | Contestant

Sep. 2017 – June 2021

- Competing member of a leading high school math team; qualified for AIME and received meritorious award for HiMCM

### Walter Payton AI Lab | Co-Founder, Co-Leader

Feb. 2019 – June 2021

- Directed academic club focused on AI research, projects, and applications

### Argonne National Laboratory Autonomous Vehicle Competition | Team Leader

Nov. 2019 – April 2020

- Leader of team building and programming an autonomous vehicle to compete in contest at Argonne National Laboratory

## AWARDS

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**2nd Place Individual** | *Illinois Math League (2021)*

**Qualifier** | *American Invitational Mathematics Exam (2019-2020)*

**Highly Distinguished Award** | *QED Chicago Mathematics Symposium (2019)*

**Meritorious Award** | *High School Mathematical Contest in Modeling (2019)*

**Designee** | *National Merit Scholarship Program (2021)*

## TECHNICAL SKILLS

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**Languages:** Python, R, Java, JavaScript, Swift, HTML/CSS

**Libraries:** pandas, NumPy, Xarray, Dask, Matplotlib, DESeq2, Tensorflow, Keras