

Matthew Lee

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Education

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| BSE in Biomedical and Electrical and Computer Engineering, Duke University | Fall 2020 – May 2024 |
| Illinois Mathematics and Science Academy, Aurora, IL | Fall 2017 - May 2020 |
| Dunlap High School, Dunlap, IL | Fall 2016 - May 2017 |
| Illinois Central College, Peoria, IL | Summer 2015 - Summer 2018 |

Research Experience

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| Bass Connections | Summer 2021 – Present |
| Bioinformatics project on analyzing population dynamics and biodiversity in ocean microbiome communities with Dr. Zackary Johnson. Applications include population dynamics in human gut microbiome. | |
| Allen Lab at Duke Center for Genomic and Computational Biology | May 17, 2020 - Present |
| Working on identifying allele-specific expression on schizophrenia ATAC-seq dataset under the supervision of Dr. Andrew Allen. | |
| Wu Lab at NU-Feinberg School of Medicine | Fall 2018 – May 2020 |
| Research intern at Northwestern University Feinberg School of Medicine under the supervision of Dr. Jane Wu. Explored glioblastoma prognosis using machine learning techniques. | |
| UC Davis Young Scholars Program | Summer 2019 |
| Researched the expression of FT in <i>A. Thaliana</i> under environmental change with Dr. Daniel Runcie. | |
| Independent Study | Fall 2019 - May 2020 |
| Studied microbiota and bacterial antibiotic resistance under Illinois Mathematics and Science Academy faculty (Dr. Jessica Amacher). | |

Clubs/Extracurricular Activities

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| Undergraduate Teaching Assistant | Spring 2022 |
| Undergraduate teaching assistant for COMPSCI 260 (Introduction to Computational Genomics) for Spring 2022 | |
| Research Assistant | Summer 2021- Present |
| Researching under the mentorship of Dr. Andrew Allen; Analyzing chromatin accessibility in Schizophrenia ATAC-seq data. | |
| Huang Fellows Program | Summer 2021- May 2024 |
| Duke Science & Society Huang Fellow Class of 2024; Learning about societal and ethical implications of science through Duke Science and Society. Designed curriculum for elementary school science classroom. Created podcast and poster for research project done under the supervision of Dr. Andrew Allen. | |
| Ethical Tech Research Assistant | September 2020 – Present |
| Research assistant for a project on the legal framework for regulating biometric tech firms (specifically Clearwater AI) as part of Ethical Tech, a Duke club dedicated to ethical issues in science and technology. | |
| Scholastic Bowl (Quizbowl) | Fall 2017 - Present |
| Varsity Team Member for Illinois Mathematics and Science Olympiad; Captain for senior year; All-State Team; National Competition 5th Place; Currently on Duke's Quizbowl Team. | |

Writer for Duke University Science Olympiad**Fall 2021 – Present**

Writer for Duke University Science Olympiad; writing questions on Anatomy and Physiology that high school students will compete with.

Hospital Volunteer**Summer 2018**

Volunteered at OSF Saint Francis in Peoria, IL; cleaned rooms, organized patient files, and talked and served drinks and food to patients at the Infusion Center

Awards**Ethical Tech and Kenan Institute for Ethics Case Competition**

2021

2nd Place Team**USA Biology Olympiad**

National Semifinalist (Top 10% in Nation)

2018, 2019

Illinois High School Scholastic Bowl Coaches Association

All-State Team

2018, 2019

National Tournament: 13th Place

2019

National All-Star Academic Tournament (Quizbowl Nationals)

2019

Team Illinois (5th Place)

2019

AP Scholar Award

AP Scholar with Honor

2020

National Merit Scholarship

National Merit Finalist

2020

Relevant Skills/Coursework**Courses:**

COMPSCI 201 – Data Structures and Algorithms

COMPSCI 250 – Computer Architecture

COMPSCI260 – Introduction to Computational Genomics

ECE110L – Fundamentals in Electrical and Computer Engineering

MATH212 – Multivariable Calculus

MATH218 – Matrices and Vectors (Linear Algebra)

NEUROSCI223 – Cellular and Molecular Neurobiology

PHY141L – General Physics I

Skills:

Proficient in Python and Java; Intermediate in C++; Beginner in R

Standard Molecular Biology Techniques (DNA/RNA prep, PCR, etc.)