

MATTHEW LEE

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EDUCATION

BSE in Biomedical Engineering , Duke University	May 2024
BSE in Electrical and Computer Engineering , Duke University	May 2024
Minor in Computer Science , Duke University	May 2024

SKILLS

Languages	Java, Python, HTML, CSS, C++, C
Tools	Git
Skills	Standard Molecular Biology Techniques (DNA/RNA prep, PCR, etc.)
Coursework	Data Structures and Algorithms, Computer Architecture, Introduction to Computational Genomics, Multivariable Calculus, Linear Algebra, Quantitative Physiology and Biostatistics Applications, Molecular Biology, Probability, Mechanics of Solids, Physics (I, II)
Awards	Ethical Tech and Kenan Institute for Ethics Case Competition (2nd Prize), USA Biology Olympiad (Semifinalist), AP Scholar Award, National Merit Scholarship

RESEARCH

Bass Connections	Aug 2021 – Present
<ul style="list-style-type: none">Developed table of gene presence and absence in ocean microbiomesAnalyzed statistically significant differences in gene expression levels among groups	
Allen Lab at Duke Center for Genomic and Computational Biology	May 2021 – Present
<ul style="list-style-type: none">Developed bash script pipeline for analyzing chromatin accessibility in ATAC-seq dataDeveloped python code to parse read counts and identify SNPs under peaks	

WORK

Undergraduate Teaching Assistant (COMPSCI 260)	Jan 2022 - Present
<ul style="list-style-type: none">Grade weekly problem setsHost office hours and answer questions on online forum	
Huang Fellow	May 2021 - Present
<ul style="list-style-type: none">Selected (20 out of 120 applicants) for science communication and ethics fellowshipDeveloped science curriculum for middle schoolsDeveloped science communication podcast	
Research Assistant (Allen Lab)	May 2021 - Present
<ul style="list-style-type: none">Developed ATAC-seq analysis pipeline	

PROJECTS

NAND2Tetris
<ul style="list-style-type: none">Developed CPU (hdl), code in assembly
COMPSCI 250 Projects
<ul style="list-style-type: none">Developed CPU (Logisim), Cache Simulator (C)

CLUBS/EXTRACURRICULAR

Member Catalyst Tech Society	Jan 2021 - Present
Huang Fellow Duke Science and Society	May 2021 - Present
Research Assistant Duke Ethical Tech	Sep 2020 - Sep 2021
Question Writer Duke Science Olympiad	Jan 2021 - Present