

Christina Choi

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EDUCATION

- Massachusetts Institute of Technology (MIT)**, Cambridge, MA 2025-2029
- **Relevant Coursework:** Multivariable Calculus, Classical Mechanics, Introduction to Solid-State Chemistry, Introduction to Python
- Homeschool**, Tbilisi, Georgia; Fairbanks, AK, Cambridge, MA 2021-2025
- **Johns Hopkins Center for Talented Youth:** Multivariable Calculus, Linear Algebra; **Relevant AP Courses:** Biology (5), Chemistry (5), Physics C: Mechanics (5) & Electromagnetism (4), Calculus BC (5), Statistics (5)

RESEARCH EXPERIENCE

- Tanzi Lab, Dept. of Neurology, Mass General Hospital (MGH)**, Boston, MA Summer 2024
- Used western blotting and immunohistochemistry to identify inflammatory markers in mice brains overexpressing amyloid-beta, investigating the role of the gut-brain axis in Alzheimer's disease
- Wald Lab, Althinoula A. Martinos Center for Biomedical Imaging, MGH**, Boston, MA 2023-2024
- Reproduced mammalian peripheral nerves through simulation software NEURON
 - Compiled data on the effect of electrical stimuli duration on threshold potential
- Alm Lab, Dept. of Biological Engineering, MIT** Summer 2023
- Used microbial genome-wide association studies (mGWAS) to link bacterial genotypes to phenotypes
- Women's Technology Program in Mechanical Engineering, MIT** Summer 2024
- Designed software application "NoctoWatch" to counter dementia wandering
 - Explored 3D printing with Onshape; Built a circuit board, Rube Goldberg machine, and rolling ball sculpture
- Biotech in Action: Virtual Fall Program, Biogen and Lemelson-MIT** Fall 2022
- Developed microglia bioengineering model; Proposed vocal recognition software for patients with Lewy body dementia
- Biological Research: Synthetic Biology, Boston Leadership Institute**, Boston, MA Summer 2022
- Performed DNA extraction and learned PCR, gel electrophoresis, and CRISPR laboratory techniques

WORK/VOLUNTEER EXPERIENCE

- Neville Place, Assisted Living and Compass Memory Support**, Cambridge, MA 2022-2025
- Led group activities, including physical exercise and memory/word games, for residents living with Alzheimer's; Met one-on-one with more advanced patients
- Walk to End Alzheimer's, Alzheimer's Assoc. of Greater Boston**, Boston, MA Fall 2022, 2023
- Organized a team of fellow homeschoolers and raised over \$10,000 in support of dementia research
- The Rivendell Academy Homeschool**, Tbilisi, Georgia; Cambridge, MA 2020-2023
- Algebra 1 tutor and test proctor

EXTRACURRICULARS AND SKILLS

Activities: MIT Pre-Medical Society, MIT Cross Products (A Cappella), MIT Asian Baptist Student Koinonia, Taekwondo, Piano

Skills:

- **Biology:** Immunohistochemistry, Western Blotting, BCA assaying, Microtome sectioning, Cell culture, DNA extraction, PCR, Gel electrophoresis, CRISPR
- **Computer:** Python, Onshape Computer-Aided-Design, LoggerPro
- **Mechanical:** Soldering, Band saw, Drill bit, Sanding wheel