DOMINIQUE DANG

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EDUCATION

Massachusetts Institute of Technology, Cambridge, MA   MAY 2027

Candidate for Bachelor of Science in Computer Science & Molecular Biology

Relevant courses: Organic Chemistry, Biochemistry, Thermodynamics of Biomolecular Systems, Genetics, Introduction to Algorithms, Fundamentals of Programming, Mathematics for Computer Science

RESEARCH EXPERIENCE & PROJECTS

Undergraduate Researcher, MIT — *Hansen Lab*   JAN 2024 - PRESENT
- Characterized and validated over 15 bidirectional gene promoters to develop a novel tool for gene co-regulation, by utilizing Fluorescence-Activated Cell Sorting (FACS) to analyze protein expression levels
- Employed statistical analysis using MATLAB to interpret flow cytometry data, identifying significant patterns and trends in protein expression

Momentum Design Competition (1st Place), MIT OME — *Blue Origin*   JAN 2024
- Designed and developed an interactive simulation using HTML, CSS, and JavaScript to study orientation perception in a microgravity environment on Blue Origin's New Shepard
- Managed project timelines and logistics with a team of four, ensuring that all components were ready for launch and met stringent safety and performance standards

Young Scholar's Program, Northeastern University — *Rouzbeh Amini Lab*   JUN - AUG 2022
- Investigated mechanical properties of the tricuspid valve in porcine hearts through dissection and biaxial mechanical testing, contributing as second author to **a published research paper**
- Developed custom MATLAB scripts to analyze stress-strain relationships

Research in Engineering Program, Duke University — *Gill Lab*   JUNE - AUGUST 2021
- Leveraged MATLAB to analyze 20+ datasets, developing a quantitative equation to measure bradykinesia in Parkinson's Disease patients undergoing deep brain stimulation surgery

LEADERSHIP & WORK EXPERIENCE

MIT Museum — *Education Assistant*   MAR 2023 - PRESENT
- Facilitated the Maker Hub and Learning Lab, encouraging and educating over 50 daily visitors on STEM topics through interactive activities and hands-on demonstrations

Biology Undergraduate Student Association — *Board Member*   SEP 2023 - PRESENT
- Organized and executed a variety of events including networking sessions, study breaks, and professor dinners for over 120 biology students to facilitate meaningful connections

HackMIT — *Logistics Director*   FEB 2024 - PRESENT
- Led a subteam of 15, strategically delegating responsibilities to organize **HackMIT**
- Spearheaded the development of the application, streamlined the review process for over 3,000 yearly submissions

dynaMIT — *Board Member*   SEP 2023 - PRESENT
- Designed and developed annual summer math curriculum on graph theory, game theory, and cryptography for over 80 underrepresented middle school students

SKILLS & AWARDS

Programming Languages: Python, Java, HTML, CSS, JavaScript, React, MATLAB, C++, Arduino

Lab Skills: sterile techniques, gel electrophoresis, PCR, Gibson assembly, DNA purification, tissue culture, FACS, basic molecular biology techniques

Awards: 1st Place Momentum Design Competition, HackMIT Top Beginner Project, National Merit Scholar