DOMINIQUE DANG

Cambridge, MA | 781-980-3797 | ddang@mit.edu | dom-dang.github.io

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA   MAY 2027
    Bachelor of Science: Computer Science & Molecular Biology
    Relevant Courses: Biochemistry, Genetics, Cell Biology, Algorithms, Probability & Statistics, Linear Algebra, Fundamentals of Programming

RESEARCH & WORK EXPERIENCE

Oncology Data Science Intern │ Novartis Biomedical Research Institute   MAY — AUG 2025
- Built a predictive machine learning model in Python and R achieving 85% accuracy in forecasting tumorigenesis outcomes for human cancer cell lines in xenograft mouse models
- Engineered predictive features by integrating differential gene expression analysis (DESeq2) and gene set enrichment analysis (GSEA), identifying 200+ biomarkers that significantly correlated with tumor formation
- Applied gene signature scores to single-cell RNA-seq data from human breast cancer tumors to identify malignant subpopulations with high engraftment potential

Undergraduate Researcher │ MIT— *Eliezer Calo Lab*   JAN. — JUNE 2025
- Analyzed nanopore sequencing data to resolve tRNA splicing patterns and detect RNA modifications
- Designed and optimized bioinformatics pipelines incorporating tools such as NanoPlot (read QC), BWA (read alignment), and DESeq2 (differential expression/statistical analysis)

Genetics Medicine Scholar │ Eli Lilly   JAN. 2025
- Conducted disease pathology mapping and target identification using molecular profiling and preclinical models to discover novel therapeutic targets
- Designed and executed drug development strategies including preclinical study planning, therapeutic design, and regulatory submissions to advance therapies toward clinical approval

Undergraduate Researcher │ MIT — *Anders Hansen Lab*   DEC. 2024 — FEB. 2025
- Characterized and validated bidirectional gene promoters to develop a novel tool for gene co-regulation, by utilizing Fluorescence-Activated Cell Sorting (FACS) and MATLAB to analyze protein expression levels and identify significant patterns and trends

Young Scholar's Program │ Northeastern University — *Rouzbeh Amini Lab*   JUNE— AUG. 2022
- Investigated mechanical properties of the tricuspid valve in porcine hearts through biaxial mechanical testing to analyze stress-strain relationships, contributing as second author to a **publication**

LEADERSHIP EXPERIENCE

HackMIT — *Logistics Director*   FEB. 2024 — PRESENT
- Led a 15-member subteam to organize HackMIT, the largest U.S. collegiate hackathon, enhancing operational efficiency and streamlining the review process for 3,000+ applications

MIT Museum — *STEM Educator*   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

SKILLS & AWARDS

Programming & Data Science: Python (pandas, scikit-learn), R (ggplot2, Seurat), MATLAB, Bash, Jupyter, Git
Bioinformatics: FASTQ/FASTA, SAMtools, BLAST, IGV, StringDB, Scanpy
Lab Skills: PCR, gel electrophoresis, Gibson assembly, DNA purification, tissue culture, flow cytometry
Awards: 1st Place – Innovation in Research: Data Science (Novartis), HackMIT Top Beginner Project