EDUCATION

Massachusetts Institute of Technology | GPA 4.9/5.0 May 2025
Bachelors in Computer Science, Minor in Biology
- Recipient of the MIT Licklider UROP Award, awarded to a single EECS undergrad for outstanding research contributions
- Relevant Courses: Algorithms (I and II), Biostatistics, Computational Biology, Computer Vision, Fundamentals of Programming, Genetics, Linear Algebra, Intro to Machine Learning, Organic Chemistry, Probability, Symmetry + ML

Milton High School | Valedictorian | U.S. Presidential Scholar May 2021
- International Science and Engineering Fair (ISEF) Grand Award Winner and 3x Finalist, Regeneron Science Talent Search Scholar, Georgia Science and Engineering Fair (GSEF) Director’s Choice Award Winner
- Dual enrolled at the Georgia Institute of Technology for advanced math courses (GPA: 4.0/4.0)

EXPERIENCE

Absci AI Research May 2023 - present
Artificial Intelligence Summer Research Intern
- Contributing to research efforts enabling de novo design of antibody CDR regions using diffusion models

Broad Institute of MIT and Harvard | Uhler Group Jan 2023 - present
Computational Biology Research Intern | Competencies: Equivariant NNs, PyTorch, Biopython
- Developed an efficient and accurate SE(3)-invariant method to identify RNA-binding regions on a protein, using a frame-averaging encoder that operates on sequence and structure
- Currently using this model to finetune protein-RNA complex structure prediction, to then supervise the de novo design of new RNA-binding proteins

Microsoft New England Research and Development Center Jan 2023 - Feb 2023
SWE Micro-Intern on BioML Team | Competencies: Diffusion Models, LLMs, Full Stack Python, Git, Azure
- Built a tool for researchers in the biological sciences to employ a range of deep learning models for protein engineering
- Focused on building a generative models module, involving integration of protein structure diffusion models and an autoregressive language model

Broad Institute of MIT and Harvard | Uhler Group May 2022 - Jan 2023
Deep Learning Research Intern | Competencies: ML Theory, Jax, EigenPro, Numpy
- Built neural tangent kernel- (NTK-) based methods to annotate features in untargeted MS/MS spectra, comparing against state-of-the-art deep learning methods
- Developed an algorithm which recursively annotates spectrum, modelling a fragmentation tree

MIT Schwarzman College of Computing | Coley Group Dec 2021 - Dec 2022
Machine Learning Research Intern | Competencies: Generative GNNs, RL, LightGBM, Optuna, RDKit
- Built a graph-based deep generative model to design protein degrader molecules with predicted potency and novel structure
- Applied policy-gradient reinforcement learning (RL) using a multi-objective scoring function to promote the design of structures with predicted protein degradation activity
- Conducted a case-study applying the framework to the in silico design of novel PROTAC-like structures for IRAK3 degradation, a previously undruggable target

Eli Lilly and Company Jan 2022 - Feb 2022
Data Science Micro-Intern | Competencies: Pandas, Seaborn, SciPy, SQL
- Improved automated approach to identify and classify injection site skin reactions by bench-marking scarletred computer vision model against millions of images from Eli Lilly database
- Identified potential confounding variables (such as image lighting, extraneous blemishes on skin, etc.) and quantified their level of importance by constructing image feature association heat maps

Past Summer Internships 2019 - 2021
- Computational Biology Research Intern at Winship Cancer Institute (2021): Determined optimal properties for a therapeutic nanoparticle to enter tumor by running a computational molecular dynamics simulation
- Summer Science Program Participant at Purdue University (2020): Computationally designed a novel antifungal drug to inhibit Cdc14 enzyme and conducted analysis in MATLAB
- Georgia Governor’s Honors Program (2019): Build a 3D-printed device to rapidly detect staph infections through volatile compound detection
PUBLICATIONS

Identification of novel RNA-binding motifs via frame averaging 2023
D. Nori, W. Jin, C. Uhler | [Code, paper under review]

De novo PROTAC design using graph-based deep generative models 2022
D. Nori, C. Coley, R. Mercado | NeurIPS Conference 2022, AI for Science Workshop [Paper, Code]
D. Nori, C. Coley, R. Mercado | Broad Institute ML for Drug Discovery Symposium [Lightning Talk]
D. Nori, C. Coley, R. Mercado | Machine Learning for Pharmaceutical Discovery Symposium [oral presenter]

Real-time intervention framework for nicotine poisoning via smart e-cigarette device 2021
D. Nori, A. Martinez | MIT Undergraduate Research Journal [Paper (p. 35)]

AI-based tool to identify mood disorders using sentiment analysis neural language model 2021
D. Nori | Southeastern Pediatric Research Conference [Conference Abstract (p. 69)]

3D-printed device for detection of pathogenic *Staph aureus* using novel, rapid enzymatic assay 2021
D. Nori, E. Patel, A. Martinez | Journal of Emerging Investigators [Paper]

PROJECTS

CryoSphere: SO(3)-Equivariant Method for Cryo-EM Pose Estimation 2023
Final Project for 6.S966, Symmetry and its Applications to ML [Poster, Code]

ImageToMolecule: Learning Protein Localization Images for Biologically-Specific Molecular Design 2023
Final Project for 6.8301, Advances in Computer Vision [Presentation, Code]

iSense: App to Prevent Gun Violence with Real-Time LLM Analysis 2021
Personal project built with funding from the American Psychological Association [My TEDx Talk]