Anakha Ganesh

anakhag@mit.edu | (510)-738-9575 | www.linkedin.com/in/anakha-ganesh

Massachusetts Institute of Technology **Cambridge, MA**

Bachelor of Science in Mathematics (18) and Computer Science and Engineering (6-3) *December 2025*

Masters of Engineering in Computer Science and Engineering (Concentration in Artificial Intelligence) *Anticipated December 2026*

- **GPA:** 4.8/5.0, **Relevant Coursework:** Design/Analysis of Algorithms, Advanced Complexity Theory, Probability and Random Variables, Fundamentals of Statistics, Stochastic Processes, Algorithms for Inference, Statistical Learning Theory, Computer Vision, Deep Learning, Software Construction, Distributed Computer Systems Engineering, Real Analysis

WORK EXPERIENCE

MIT Computer Science & Artificial Intelligence Laboratory, Graduate Researcher | MA **January 2026 - Present**

- Designing stochastic, gradient-free optimization methods for objectives defined by black-box functions with noisy formulations.

Walleye Capital, Quantic Team, Quantitative Researcher Intern | MA **June 2025 - August 2025**

- Developed and validated alpha factors using statistical analysis and cross-sectional regression on large-scale financial datasets.
- Engineered risk models for portfolio optimization, leveraging diffusion factor models to impute data in short time series.

MIT Computer Science & Artificial Intelligence Laboratory, Undergraduate Researcher | MA **September 2024 - May 2025**

- Evaluated Sybil, deep learning model for lung cancer prediction, to investigate if nodule detection drives cancer prediction.
- Enhanced architecture, cost effectiveness, and deployment of breast cancer artificial intelligence tool, MIRAI, to take in mammogram data and predict occurrence of breast cancer within 1-5 years.

Amazon, Software Development Engineer Intern | WA **June 2024 - August 2024**

- Reduced manual labor by 50% by automating drug tests lifecycle management for Amazon People Experience and Technology.
- Created database, API, event driven, and client notification architecture to scale with large numbers of concurrent requests.
- Utilized cloud technologies such as AWS DynamoDB, Cloud Development Kit, API Gateway and Javascript and Java languages.

MIT EECS, Lab Assistant for Fundamentals of Programming | MA **September 2023 - December 2023**

- Guided students through extensive Python projects during office hours. Reinforced binary search and merge sort concepts.

Copenhagen Energy Trading, Trading Analyst Intern | Copenhagen, Denmark **June 2023 - August 2023**

- Lifted profit margins by developing an ML model to predict the value of power auction profiles for UK National Grid.
- Improved prediction accuracy by deploying an ML ensemble model which stacked statistical and classification ML models.
- Used XGBoost, SciKit-Learn, ARIMA, SMOTE, and Pandas Python libraries with PostgreSQL data integration for modeling.

MIT Energy Initiative and Department of Economics, Undergraduate Researcher | MA **February 2023 - June 2023**

- Optimized SESAME software platform for study of the energy grid in the US and Germany using Python Pyomo and Pandas.
- Modeled hydrogen fuel prices with Gurobi optimization tool. Presented findings to the National Petroleum Council.

COMMUNITY LEADERSHIP

Boston Medical Center, Pediatric Inpatient and ICU Volunteer | MA **November 2024 - Present**

- Lead playroom activities and engage children in games to promote mental wellness while providing caregivers with a break.

MIT Consulting Group, Director of New Member Education | MA **February 2023 - Present**

- Defined market opportunity with 4 person team for biotech venture capital firm Xontogeny with 20+ companies in portfolio.
- Tracked portfolios of top-performing biotech companies using data landscape of EBITDA, market cap, drug cliffs, and revenues.

AWARDS AND HONORS

- ***Publications:*** S. P. Castro, et al. "Diversity at Single Nucleotide to Pangenome Scales among Sulfur Cycling Bacteria in Salt Marshes." Applied and Environmental Microbiology, vol. 89, no. 11, 29 Nov. 2023, https://doi.org/10.1128/aem.00988-23.
  H. Doré, A.R. Eisenberg, E.N. Junkins, G.E. Leventhal, A. Ganesh, O.X. Cordero, B.G. Paul, D.L. Valentine, M.A. O'Malley, & E.G. Wilbanks, Targeted hypermutation of putative antigen sensors in multicellular bacteria, Proc. Natl. Acad. Sci. U.S.A. 121 (9) e2316469121, https://doi.org/10.1073/pnas.2316469121 (2024).
- ***Github:*** https://github.com/anakhag07
- ***Google Scholar:*** https://scholar.google.com/citations?user=0DX4Y5EAAAAJ&hl=en&authuser=1
- ***Research:*** 2021 Regeneron International Science and Engineering Fair (ISEF), 4th place, Computational Bio & Bioinformatics.
- ***Speech and Debate:*** 2022 National Speech and Debate Association, Quarterfinalist (Top 30 in nation)
- ***Athletic:*** 2020 GotSoccer.com Ranking: Northern CA, Rank: 2 | Regional, Rank: 7 | National, Rank: 18

TECHNICAL SKILLS

- *Computer:* Python, Javascript, PostgreSQL, Deep Learning, Scikit-Learn || *Languages:* English, Malayalam, Spanish