Tamanna Ananna

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EDUCATION

Columbia University **New York, NY**
MS in Computer Science, Machine Learning Track, GPA: 4.0 *May 2021- December 2022*

Columbia University **New York, NY**
MS Bridge to Computer Science. GPA: 3.85 *May 2020 - May 2021*
Program for non-CS majors to take foundational undergrad CS courses and qualify for masters.

Princeton University **Princeton, NJ**
BSE in Chemical and Biological Engineering, Cum laude *September 2014- June 2018*
Awards: Reiner G Stoll Fellowship, 2016, top research award granted to one student in the dept.

TECHNICAL SKILLS

- Languages: Java, C, Python, MS SQL, R, CSS, HTML, Javascript
- Frameworks and Libraries: TensorFlow, Pandas, NumPy
- Other: Github, PowerBI, Tableau, UNIX commands, Valgrind, bash scripting

RESEARCH EXPERIENCE

Senior Thesis Project, Princeton University *August 2017- May 2018*

- Identified *relA* as an enzyme that plays an important role in prioritizing Nitric Oxide clearance under nitrogen starvation in *E. coli*, increasing understanding of antibiotic resistance mechanisms.
- Established enzyme kinetic profiles through bioreactor-based experiments, and updated the mathematical model based on the results.
- Defended thesis to a panel of professors, presented findings to in poster session, and submitted a publication-quality thesis document.

Research Assistant, Prud'homme group, Princeton University *Summer 2017*

- Used Prud'homme group's polymer directed self-assembly method, Flash Nano Precipitation (FNP), to encapsulate drugs like itraconazole and clofazimine into nanoparticles stabilized by EUDRAGIT® enteric coating polymers
- Demonstrated that the nanoparticles formed were stable and a number of the formulations released in a pH dependent manner, a fact with implications for targeted drug delivery in the gastrointestinal tract
- Analyzed the size and quality of the nanoparticles, examined their stability for up to a week-long period, conducted release studies in bio-relevant media to assess their release kinetics, and received training in spray-drying techniques to concentrate the nanoparticles into oral dosage.

Summer Fellow- Professor Jose Avalos, Princeton University *Summer 2016*

- Established standard protocols for cloning and handling of *Yarrowia lipolytica*
- Worked on developing a functional light-inducible system in the yeast Yarrowia using VP-EL222 system.
- Designed primers and vectors using Gibson Assembly, analyzed gel samples, DNA sequenced results, analyzed fluorescence levels to determine inducibility of the system, measured OD to monitor cell growth

OTHER

- Poster Presentation, "Detoxification of Nitric Oxide Under Nitrogen Starvation in Escherichia coli," CBE Senior Thesis Poster Session, May 16, 2018
- Poster Presentation, "Engineering the Microbiome of Drosophila melanogaster," Princeton Research Day, May 6, 2017
- Vice President of American Institute of Chemical Engineers (AIChE) 2017-2018. Organizer of AIChE Mid-Atlantic Student Regional Conference in 2018, Co-founder of Biotech Entrepreneurship group.