

Sahana Gopalan

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EDUCATION

University of Chicago

Expected Graduation: Dec 2023

Bachelor of Science in Molecular Engineering, Minor in Computer Science

Courses: Engineering Design, Numerical Linear Algebra for Scientific Computing, Organic Chemistry, Mathematical Methods for Physical Sciences, Engineering Quantum Mechanics

Neuqua Valley High School, Naperville, IL

Graduated 2020

EXPERIENCE

The He Lab, University of Chicago, Department of Human Genetics

Research Assistant

June 2021 - Present

- Designed and trained neural networks to predict methyl mutation sites based on large volumes of sequencing data using Pytorch.
- Adapted the traditional NLP transformer model to analyze methyl mutation sites in context and predict.
- Evaluated existing and new models and adapted accordingly to develop more accurate mutation predicting networks.
- Processed large amounts of m6A-seq data in BED-file format via computing cluster and using existing genomic analysis tools.
- Designed pipeline to read files, retrieve sequences from the standard hg38 genome, and filter, pad, and translate these sequences for training models.
- Took initiative and designed tool to search the NCBI web database based on sample names in BED files, and pull relevant information from this database using BeautifulSoup to tag and label training sequence data from different experimental studies.

The Jones Lab at the University of North Carolina, Chapel Hill, Department of Biology

Summer Intern

June 2019 - August 2019

- Worked with several species of *Drosophila*, flipping and sorting flies for daily upkeep.
- Ran scent-chamber experiments for the lab's greater focus on exploring the effects of the Actin-Gal4 protein.
- Wrote programs to organize, combine, and sort large quantities of miRNA data for researchers working on external projects using Python.

Ringle

Ringle is an online English tutoring company based in South Korea, targeting adult professionals primarily working across Asia.

Tutor *July 2021 - Present*

- Guided a wide range of learners (from students to professionals at well-known companies such as Samsung) with diverse English language-learning goals, helping them speak more naturally and professionally. Some examples include assisting with business or professional presentations, navigating the medical system in English, and practicing university course lectures so they are clear and easy to understand. Remained a top-rated tutor.

World Computer Exchange - Chicago Chapter

Intern - content development

June 2018 – July 2020

- Compiled and re-organized the 'Inspire Girls' section of our online content, targeted towards young girls in developing countries, with a goal of sharing practical information, academic resources, and content geared towards female empowerment. Wrote webpages for the program using BlueGriffon software.

ACTIVITIES

MODA

MODA is a fashion club at the University of Chicago

Design director

September 2021 - Present

- Plan and coordinate logistics for the annual MODA fashion show, typically attended by 1000+ guests
- Designed and sewed a 3-look collection for the show
- Organized the Designer Boot Camp, a year-long sewing intensive for beginners that prepares them for the fashion show

Distance Running

- 2019 Chicago Marathon Finisher, 2-time finisher of Healthy Driven Naperville Half Marathon. Currently training for the 2022 Chicago Marathon.

SKILLS

- Python, Pytorch, R, Microsoft Excel, Tensorflow, Java, C, data structures, deep learning, transformer model, neural networks