

Aryaan Khan

aryaan.khan@yale.edu | aryaan02.github.io/portfolio | linkedin.com/in/aryaankhan

EDUCATION

Yale University | New Haven, CT

Expected Graduation: May 2024

B.S. in Computer Science, Certificate in Data Science

Cumulative GPA: 3.92

Relevant Coursework: Data Structures, Algorithms, Full Stack Web Programming, Distributed Systems, Systems Programming and Computer Organization, Discrete Mathematics, Probability Theory, Multivariate Statistics

EXPERIENCE

Student Web Developer | Yale Computer Society

August 2022 – Present

- Collaborate with a team of 15+ student developers on the development and maintenance of CourseTable, a platform for exploring course information, demand statistics, and evaluations
- Contributed towards the growth of the website, resulting in 6000+ users and becoming students' primary tool for course planning
- Implemented the UI and API integration for a course workload calculator using ReactJS, Python, and GraphQL

Research Assistant | Yale School of Medicine

June 2021 – Present

- Analyze genetic datasets and identify potential molecular mechanisms that lead to neurodegeneration by building statistical models using Python, Pandas, and R
- Developed a Python program that efficiently parses large genetic datasets, generates gene models, and illustrates differentially expressed gene graphs, automating 75% of data analysis for all research projects in the lab
- Co-authored two peer-reviewed scientific papers in reputable journals, working closely with lab members to design the experiments, anticipate pitfalls, and brainstorm effective solutions

PROJECTS

Spotifeel | *Python, Flask, HTML, CSS*

- Developed a web application that generates a custom Spotify playlist for users based on their selected mood, considering song attributes such as danceability, energy, and tempo
- Implemented customizable features such as specifying song count, playlist title, and exclusion of explicit songs
- Designed an intuitive UI with HTML and CSS, and integrated user authentication with Flask and the Spotify API

Memory Allocation Debugger | *C*

- Built a debugging wrapper for memory allocation in C, which tracks active heap usage, memory leaks, and heaviest memory allocators in a program
- Constructed an advanced reporter that protects against integer overflow, common programming errors (invalid/double frees), and write error detection past allocated memory boundaries

Birthday Gift | *ReactJS, SQL*

- Built an interactive website for a friend's birthday utilizing ReactJS, which illustrates a timeline and gallery of images, as well as a message forum for registered users
- Implemented username, email, and password authentication with Google Firebase, allowing users to create an account and post birthday messages, which are stored using Firebase's integrated database

Cortex-Cerebellum Analysis | *Python, Pandas, Matplotlib*

- Analyzed differences in molecular pathways during neurodegeneration between the cortex and the cerebellum in mouse models
- Produced data models and visualizations using Matplotlib, contributing 10+ figures for a scientific journal publication

Typing Terror | *Unity, C#*

- Created a 2-D typing game that involved the player swiftly entering words to save a village from incoming asteroids, with asteroid speeds increasing as the game continues
- Designed visually appealing 2-D graphics in the Unity Engine and coded object interactions and gameplay using C#

SKILLS

Languages: Python, C, C#, HTML, CSS, JavaScript, Go, SQL, R

Technologies: ReactJS, NodeJS, GraphQL, Flask, REST APIs, Git/GitHub, SQLite, Jupyter Notebook, Pandas, Matplotlib, Unity

Characteristics: Problem Solving, Collaboration, Communication, Time Management, Determination