Aashna Pathi

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EDUCATION

The University of Texas at Dallas (UTD), Richardson, TX — August 2021 - May 2025
Bachelor of Science in Biology, Minor in Computer Science — **GPA: 4.00**

Honors:

Hobson Wildenthal Honors College, Collegium V Scholar (UTD) — Fall 2021 – Spring 2025
Dean's list (UTD) — Fall 2021 – Spring 2025
Spring 2023 Undergraduate Research Scholar Award (URSA) grant recipient ($500) — 2023
2021 National Merit Scholar Program Finalist and Scholarship Recipient — 2021

Certificate:

IBM Data Science Professional Certificate — In Progress

PROFESSIONAL EXPERIENCE

Research Intern (Wang Lab - Bioinformatics), UTSW Medical Center, Dallas, TX — May – October 2024

- Performed end-to-end high quality data analysis (preprocessing, data cleaning, and visualization) on **45+ high-dimensional** spatial transcriptomics data using Python libraries (Pandas, NumPy, Matplotlib, Scanpy).
- Implemented unsupervised machine learning algorithms (Leiden clustering and UMAP dimensionality reduction) for highly accurate cell type identification and visualized data spatially to enhance interpretation of complex data.
- Managed and organized metadata, gene expression matrices, and visualization outputs of over **85%** of datasets currently used to pre-train and validate deep learning model.

Green Fellows Research Intern (Green Fellowship - Wang Lab), UTSW Medical Center, Dallas, TX — January – May 2024

Project: Analyzing the role of gamma delta T cells in tissue physiology

- Executed batch jobs incorporating sequencing and alignment softwares on linux-based computing resources to preprocess high-dimensional genomic data (**12,000+ samples**).
- Cleaned and curated data with associated metadata to prepare datasets for training a transformer-based model.
- Presented data at poster presentation session as part of Green Fellowship program with a **20% admittance rate**.

Research Intern (MicroSURP - Kim Lab), McGovern Medical School at UTHealth, Houston, TX — May - July 2023

Project (NIH-funded): Investigating the binding of Mig1 yeast transcription factor to G4 DNA

- Performed cloning, expression, and purification of protein domain of interest and finally conducted electrophoretic mobility assays (EMSA) to characterize protein domain binding to G4 DNA.
- Developed strong debugging and problem-solving skills by troubleshooting issues at various steps.
- Received a supplement to Principal Investigator's NIH grant and presented research findings through an **8-minute talk** at microSURP program and a poster at the 2023 Summer Platform for Undergraduate Research Symposium at UTD.

PROJECTS

Code Mentor (Dallas AI 2024 Summer Program) | *Next.JS, TailwindCSS, React, Typescript, Cloudflare* — June – August 2024

- Developed a web application that enables users to create reusable, AI-powered interactive coding playgrounds that provide personalized practice challenge questions for students to develop their coding skills (in a team of four).
- Collaborated on designing frontend, building frontend components, implementing Piston API for code compilation functionality (10+ languages) in coding playground, and integrating OpenAI API into backend for LLM capabilities.
- Awarded **1st place** at Dallas AI Summer Program, a 10-week experience featuring professional talks on AI/ML.

Whole and Well (ACM - Projects Division) | *Dart, Flutter, Firebase* — September – November 2022

- Developed a mobile application for holistic personal development and wellness using Dart, Flutter UI toolkit, and Firebase for user authentication and database as part of a program with a **5% admittance rate** (in a team of four).
- Implemented a motivational quotes API provided by RapidAPI.

LEADERSHIP & COMMUNITY INVOLVEMENT

UTD Consult Your Community, Junior Analyst — 2025
UT Dallas Women Who Compute, Member — 2024 – 2025
UTD Freshman Mentor Program, Mentor — 2022 – 2025
UTD Making Healthcare Affordable, President (prev. Volunteer Coordinator) — 2022 – 2024

TECHNICAL SKILLS

Languages: Java, C++, HTML, CSS, Typescript, R, Python, Dart, SQL
Frameworks/libraries: TailwindCSS, Flutter, Next.js, React, Pandas, NumPy, Matplotlib, Scanpy
Software applications: Microsoft Excel, Word, PowerPoint, Git Bash, Linux, Conda, Anaconda, Mamba, Figma