

EDUCATION

University of Houston, GPA: 3.8	Houston, TX
<i>B.S. Computer Science, Focus: Software Development</i>	2023 - 2026
<i>B.S. Mathematics, Focus: Data Science</i>	2024 - 2026

EXPERIENCE

Tutor Fellowship	Jan 2025 – Apr 2025
<i>Ignite Teach For America</i>	<i>Remote</i>
<ul style="list-style-type: none">• Provided virtual one-on-one tutoring to underserved students, helping accelerate their academic progress and foster educational equity• Participated in comprehensive professional development sessions to enhance tutoring effectiveness and student engagement strategies• Collaborated with Ignite Site Leaders and fellow tutors to implement personalized learning approaches and track student progress• Engaged in regular feedback sessions and development activities to continuously improve tutoring effectiveness	
Undergraduate Research	May 2024 – Aug 2024
<i>CTBP Rice University</i>	<i>Houston, TX</i>
<ul style="list-style-type: none">• Conducted research on cell differentiation of chromosome ensembles using minimal models• Utilized Minimal Polymer Models to simulate and analyze Hi-C maps for multiple human cell lines• Performed extensive simulations of Chromosome 10 across various cell lines• Developed computational protocols for ensemble analysis using techniques such as PCA, t-SNE, and UMAP• Collaborated with team members and presented findings in weekly meetings	

PROJECTS

Medical Clinic Management System MySQL, Node.js, Express, Sequelize, React
<ul style="list-style-type: none">• Designed and implemented a detailed database schema for efficient management of medical clinic operations• Developed a backend API using Node.js, Express, and Sequelize ORM, establishing complex relationships between entities• Implemented user authentication and role-based access control for secure data management across different user roles• Created API endpoints for core functionalities including user registration, appointment scheduling, and medical record management
OpenMiChroM Python
<ul style="list-style-type: none">• Developed a Python-based analysis tool for processing and visualizing Hi-C data from chromosome simulations• Utilized advanced dimensionality reduction techniques including PCA, t-SNE, and UMAP for analyzing chromosome structural ensembles• Created efficient data processing pipelines to handle large-scale genomic datasets from multiple human cell lines• Incorporated CUDA GPU acceleration and Multithreading capabilities to enhance performance on large datasets• Implemented caching mechanisms to optimize repeated computations and improve overall efficiency• Successfully differentiated human cell lines based on subtle differences in simulated chromosomal structures, revealing cell-type-specific information

SKILLS

Technical: C/C++, Python, JavaScript/TypeScript, PostgreSQL, Git, Linux/Unix, Docker
Development: Multithreading, Memory optimization, Full-stack development
Professional: Communication, Problem-solving, Research methodology, Team collaboration, Data Analysis

RELEVANT COURSE WORK

Computer Science: Algorithms & Data Structures, Operating Systems, Database Systems, Software Engineering, Software Design
Mathematics: Linear Algebra, Probability, Statistics for Sciences, Calculus I-III, Discrete Mathematics