

GHULAM MURTAZA

Email: ghulam_murtaza@brown.com

Department of Computer Science, Brown University

Phone Number: +1 (401) 218 1733, **Address:** 115 Waterman St, Providence, RI 02912

EDUCATION

Brown University, Providence, RI

– Ph.D in Computer Science with Dr. Ritambhara Singh. GPA 4.0/4.0 Expected Graduation: Spring 2025
– MS in Computer Science. GPA 4.0/4.0 2019 - 2021

Lahore University of Management Sciences (LUMS), Lahore, Pakistan

– BS in Computer Science. GPA 3.83/4.0 2015 - 2019

EXPERIENCE

Research Assistant - Brown University

Sept 2021 - Present

Building graph neural networks that join combine structural and sequential genomics in shared representations.

Guest Researcher - National Institute of Standards and Technology

June 2022 - May 2023

Built a benchmarking platform to compare Hi-C resolution improvement frameworks.

Research Assistant - Brown University

Sept 2019 - Dec 2020

Built a causal model of web page loading process to identify bottlenecks and provide insights into performance.

Research Assistant - LUMS

Sep 2018 - July 2019

Conducted studies to understand the impact of memory bottlenecks on web page loading process.

PUBLICATIONS

G. Murtaza, B. Butaney, J. Wagner, and R. Singh. “scGrapHiC: Deep learning-based graph deconvolution for Hi-C using single cell gene expression.” **runner up for Ian Lawson Van Toch Best Paper Award at ISMB2024** In Press, *Bioinformatics*, Volume 40, Issue Supplement 1.

G. Murtaza, J. Wagner, J. Zook, and R. Singh. “GrapHiC: An integrative graph-based approach for imputing missing Hi-C reads.” Under review, *ACM Transactions on Computational Biology and Bioinformatics*.

G. Murtaza, A. Jain, M. Hughes, R. Singh. “A comprehensive evaluation of generalizability of deep learning-based Hi-C resolution improvement methods.” In Press, *MDPI, Genes*, Volume 15, Issue 1.

G. Murtaza and T. Benson. “WebOptProfiler: providing performance clarity for mobile webpage optimizations.” *ACM HotMobile 2021*. Feb 2021.

I. Qazi, Z. Qazi, T. Benson, E. Latif, A. Manan, **G. Murtaza**, and A. Tariq. “Mobile web browsing under memory pressure.” *ACM SIGCOMM Computer Communication Review*. Oct 2020.

F. Dogar, I. Qazi, A. Tariq, **G. Murtaza**, A. Ahmad, N. Stocking. “MissIt: using missed calls for free, extremely low bit-rate communication in developing regions.” *ACM CHI*. Apr 2020.

HONORS AND AWARDS

Brown sixth-year Dissertation Fellowship

2024 - 2025

Brown Graduate School Fellowship

2019 - 2020

Dean’s Honor List - LUMS

2016, 2017, 2019

SKILLS

Programming: C, C++, Python, Javascript, GoLang, Java, SQL, R

Frameworks: Pytorch, Tensorflow, JAX, Pytorch Geometric, NLTK, Spark, Hadoop, Docker

Bioinformatics Pipelines: Bioconductor, Juicer, Coolertools, BWA, Bedtools, pyMol