

Tarik Abdulaziz Aljuaie

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EDUCATION

M.S. in Biotechnology, *Krieger School of Arts & Sciences, Johns Hopkins University – Baltimore, MD*
August 2023 – May 2025

- GPA: 3.97/4.0
- Coursework: Cellular Signal Transduction, Advanced Cell Biology, Molecular Biology, Practical Computer Concepts for Bioinformatics, Epigenetics, Gene Organization & Expression, Advanced Practical Computer Concepts

B.Sc. in Microbiology, *College of Science, King Saud University – Riyadh, Saudi Arabia*
September 2017 – June 2022

- GPA: 3.86/4.0
 - Graduation Project: Detection of resistance genes in *Salmonella enterica* serovar *Arizonae*
 - Coursework: Microbial Genetics, Environmental Microbiology, Immunology
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EXPERIENCE

Graduate Research Assistant – Urologic Oncology

The Johns Hopkins University School of Medicine – Baltimore, MD
May 2024 – February 2025

- Analyzed RNA-Seq data from LNCaP prostate cancer cell lines to assess gene expression differences
- Performed quality checks and aligned reads to the reference genome
- Used R to conduct differential expression and gene ontology analysis; generated data visualizations including heatmaps and volcano plots

Graduate Teaching Assistant – Advanced Cell Biology

The Johns Hopkins University – Baltimore, MD
September 2024 – May 2025

- Held weekly office hours to assist graduate students with course material and assignments
- Graded quizzes, midterms, discussion posts, and research papers
- Led and facilitated classroom discussions to enhance student understanding of core concepts

Laboratory Technician – Food Safety Department

*Central Diagnostic Veterinary Laboratory, Ministry of Environment, Water & Agriculture – Riyadh, KSA
October 2022 – July 2023*

- Diagnosed *Salmonella* and *Campylobacter* using morphology, serology, and VITEK/VIDAS systems
 - Followed ISO 6579 (*Salmonella*) and ISO 10272 (*Campylobacter*) protocols under ISO 17025 standards
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PROJECTS

Capstone Project – Genetic Variation Search Tool

Advanced Practical Computer Concepts for Bioinformatics, Johns Hopkins University

- Designed and developed a web-based bioinformatics tool to explore gene-phenotype relationships using ClinVar data (GRCh38 assembly)
 - Built a MySQL relational schema to manage genes, variants, phenotypes, references, and clinical significance data
 - Parsed and loaded large-scale tab-delimited data using Python; optimized SQL queries and indexing for performance
 - Implemented a Python backend (CGI & Jinja2) with a dynamic HTML interface and JavaScript-based user interaction
 - Integrated MONDO API using JavaScript to fetch and display real-time phenotype descriptions
 - Added pagination, duplicate filtering (GROUP_CONCAT), and optimized query to improve usability and runtime
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SKILLS

Data & Bioinformatics Tools:

R, RNA-Seq Analysis, Differential Gene Expression, Gene Ontology, Data Visualization (ggplot2, heatmaps, volcano plots), Shell scripting, Python, MySQL, JavaScript, Web Development (HTML/CSS), Apache Server Configuration

Laboratory Techniques:

PCR, DNA/RNA Extraction, Cell Cultures, Bacterial Cultures, PFGE

Professional Skills:

Critical Thinking, Time Management, Teamwork, Communication, Independent Learning
