Abdalla Alkhawaja

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EDUCATION

PhD. candidate (Bioinformatics)	Univ. of North Carolina at Chapel Hill	2021 – 2026 (exp)
Post-Baccalaureate Certificate (Bioinformatics)	Nile Univ., Egypt	2021
B.Sc. Biomedical Science	Univ. of Science and Technology at Zewail City, Egypt	2017

SKILLS

- **Single-cell genomics:** Developed analysis pipelines for 5 bulk & single-cell RNA, ATAC-seq, and RRBS-seq data using R/Python on HPC clusters. Used version control (Git) and interested to apply AI/ML for complex omics data
- **Scientific communication:** Presented 5 posters & 4 formal presentations on my work (ASHG, department seminar, other institutions) including all preparations (writing, copy editing and figure design)
- **Mentorship:** Led multi-tier mentoring initiatives for 100+ both undergraduate and peer graduate students spanning technical training, course instruction, and career development
- **Leadership:** Managed and oversought 3 projects and 5 members in both research and extracurricular contexts
- **Discipline:** Decorated veteran member of the Egyptian military, serving 1.5 years

PROFESSIONAL EXPERIENCE

Graduate Research Assistant, Univ. of North Carolina – Chapel Hill 2021 – Present

- Managed 5 cross-functional genomics projects with 20+ scientists on integrating NGS pipelines, GWAS analysis, and scRNA-seq for cancer research, resulting in 1 publication and 2 manuscripts in progress
- Developed statistical frameworks analyzing genetic effects on gene regulation through UCLA/UofM collaboration, optimizing single-cell pipelines for disease research
- Developed R programming curriculum for weekly classes (25 students), instructed sequence analysis for graduates (30 students), and mentored underrepresented students through EDGE Genomics program (45 students)
- Co-founded the Computational Bioscience Club where I headed the international committee to facilitate internships for students while delegating tasks and maintaining communication among leadership team
- Co-organized the Graduate Student Recruitment Committee to facilitate 300+ prospective student engagement

Undergraduate Intern, Univ. of Science and Technology at Zewail City, Egypt 2014 – 2017

- Isolated and characterized bacteriophages from local water sources using bacterial and viral aseptic lab techniques
- Qualified expression of micro, long-non-coding, and mRNA in cultured human cell lines using PCR
- Served as Junior Teaching Assistant for 2 years, delivering biology class and lab instruction to 200+ students
- Co-founded the Biomedical Science Exhibition connecting students with 30+ academic and industry speakers

AWARDS AND HONORS

- Graduate and Professional Student Government Travel Award ($600), UNC 2024
- Best oral presentation in Bioinformatics & Computational Biology (10 competitors), UNC Genetics Retreat 2024
- Military Service Award (Good Idol), Egyptian Armed Forces 2018
- Full merit scholarship (awarded to top 5% - 300 of 6000 applicants), Zewail City of Sci. & Tech, Egypt 2013 – 2017
- First place, Science Operation Leaders (SOLE) national university competition, Egypt 2015
- Innovation runner-up for $1 microscope prototype (16 competitors), Egypt Science Fair, Egypt 2014

SELECTED SCIENTIFIC CONTRIBUTIONS

- Broadaway, K., Brotman, S., Rosen, J., Currin, K., **Alkhawaja, A.**, Etheridge, A., Wright, F., Gallins, P., Jima, D., Zhou, Y., Love, M., Innocenti, F., Mohlke, K. (2024). Liver eQTL meta-analysis illuminates potential molecular mechanisms of cardiometabolic traits. *The American Journal of Human Genetics*.
- Currin, K., Perrin, H., Pandey, G., **Alkhawaja, A.**, … , Mohlke, K. (2024). Genetic effects on chromatin accessibility uncover mechanisms of liver gene regulation and quantitative traits. (under review)
- **Alkhawaja, A.**, Currin, K., Perrin, H., Vadlamudi, S., … , Furey, T., Mohlke, K. (2024). Liver single-nucleus multiomic profiling reveal cell types for cardiometabolic traits. (in prep)