AHMAD ALI

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Software engineer and biomedical scientist with dual graduate training in bioinformatics (Brandeis) and biomedical engineering (Johns Hopkins). Builds production data systems and full-stack applications for the restaurant industry. Published researcher in medical imaging and genomics. Studying for the patent bar examination with a focus on software and biotechnology IP.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, R, SQL, Bash, C++, Objective-C, Java, Power BI DAX

Web & Backend: Node.js, Flask, FastAPI, Express, REST APIs, Docker, Nginx, AWS Lambda

Data & Analytics: pandas, NumPy, SciPy, scikit-learn, matplotlib, seaborn, Plotly, D3.js, Power BI

Bioinformatics: Bioconductor, DESeq2, edgeR, limma, WGCNA, Biopython, SAMtools, BWA, BLAST, IGV, Cytoscape

Infrastructure: Git, Linux, Docker Compose, AWS (Lambda, S3), CI/CD, PostgreSQL, SQLite

PROFESSIONAL EXPERIENCE

Founder & Lead Engineer **2026 - Present**

Zaffira LLC | Philadelphia, PA

- Founded a technology consultancy building custom software products for the restaurant industry, including scheduling automation, financial dashboards, and operational reporting tools.
- Architecting a SaaS platform for multi-unit restaurant operators with automated data pipelines, real-time analytics, and management reporting.
- Designing system architecture across Python and TypeScript services with Docker, PostgreSQL, and AWS Lambda deployments.

Data Analyst & Software Engineer **October 2021 - Present**

IMAX Management / Keke's Breakfast Cafe | FL

- Built an automated payroll scheduling system (Python, AWS Lambda) that parses ADP exports, calculates tip distributions, and generates compliance-ready reports, replacing a manual process that took several hours per pay period.
- Developed a full-stack cash flow dashboard (TypeScript, Drizzle ORM, Docker, Nginx) integrating Restaurant365 API data with interactive financial visualizations.
- Created a management reporting web application (Flask, SQLite) with automated data collection pipelines and executive-level analytics.
- Designed Power BI dashboards for real-time tracking of sales, labor, and food cost metrics across multiple locations.
- Built financial models for catering analysis, cost-effectiveness projections, and anomaly detection in daily operations data.

Research Technician **October 2020 - October 2021**

Metabolic Imaging Core, Harvard Medical School | Boston, MA

- Developed Objective-C and Python analysis tools for CT and MRI image processing, including automated segmentation of shoulder and lumbar spine structures.
- Implemented Linux-based computational models for organ and tissue MRS spectroscopy correction, improving quantification accuracy.

- Performed MRI and CT imaging procedures on liver, spine, femur, marrow, and muscle for clinical research studies.

Research Associate **June 2019 - February 2020**
Temple University, Engineering Department | Philadelphia, PA

- Tested electroblowing target materials to optimize nanofiber generation parameters for skin regeneration scaffolds.
- Improved nanofiber healing materials by enhancing density and structural thickness through iterative material testing.

EDUCATION

MS in Applied Bioengineering **August 2024 - Present**
Johns Hopkins University | Baltimore, MD GPA: 4.0

MS in Bioinformatics **July 2021 - March 2024**
Brandeis University | Waltham, MA GPA: 4.0

BS in Genetics and Developmental Biology **August 2016 - December 2019**
Pennsylvania State University | Abington, PA GPA: 3.95

PROJECTS

Financial Report Dashboard — Full-stack financial dashboard for a multi-unit restaurant operator. TypeScript backend with Drizzle ORM, PostgreSQL database, Docker containerization, and Nginx reverse proxy.

ADP Payroll Scheduler — Automated payroll processing system that parses ADP PDF exports, calculates tip share distributions, matches employee records, and generates compliance-ready scheduling reports.

Network Analysis of microRNA Hubs in IgA Nephropathy — RNA-seq analysis pipeline using DESeq2, limma, and WGCNA to identify biomarker candidates and gene co-expression networks in kidney disease.

Drug-Disease Interaction Analysis — Computational pipeline for cross-dataset gene expression analysis with normalization and batch correction.

PUBLICATIONS

Bunnell, K.M. et al. “Body composition predictors of outcome in patients with COVID-19.” *International Journal of Obesity* 45, 10 (2021): 2238-2243.

Bloomer, S.A. et al. “Renal Iron Accumulation and Oxidative Injury With Aging: Effects of Treatment With an Iron Chelator.” *The Journals of Gerontology: Series A* 75, 4 (2020): 680-684.