

Nima Sarfaraz

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SUMMARY

Molecular biologist specializing in cancer, genetics, and virology research with a distinctive background in big data and technology consulting. Bridges scientific expertise with transferable skills in project management, client relations, and data analytics acquired from years of previous professional experience. Combines bioinformatics analysis and advanced wet-lab techniques with business acumen, offering a valuable blend of scientific rigor and professional perspective.

SKILLS

Computational & Bioinformatics:

- **RNA-seq analysis & pipelines:** Nextflow/nf-core, QC, alignment, quantification, batch effect integration, differential expression analysis, pathway enrichment analyses, hierarchical clustering, data visualization
- **Programming & HPC:** R, Python, UNIX/Linux, Bash scripting, HPC environments (Slurm)
- **Databases & queries:** SQL/CQL, TCGA, GTEx, GEO, ICGC

Wet lab:

- **Molecular Biology:** Adenovirus/lentivirus design and packaging, vector design/prep (plasmids, transposons, siRNAs), molecular cloning, RT-qPCR, PCR, Western/Northern/Southern blotting, 3'RACE, protein/RNA/DNA extractions
- **Cell Biology:** Mammalian cell culture, stable cell line generation, viral infections, transfections and transductions, colony formation assays (standard and soft agar)
- **Analytical Methods:** Seahorse metabolic flux analysis, plate-based assays (ELISA, OPP-incorporation/protein synthesis, luciferase), over-expressions and knockdowns, drug and compound treatments

Software: GraphPad Prism, ImageJ/FIJI, IGV, ELNs, Genome Browsers (UCSC, NCBI, Ensembl), Microsoft Office Suite, Adobe (Photoshop, Illustrator)

Project Management: Agile/Scrum methodologies, sprint planning, stakeholder management, cross-functional team leadership, requirements gathering, documentation, resource optimization

RESEARCH EXPERIENCE

BOUCHARD LAB (HBV & LIVER CANCER), DREXEL UNIVERSITY COLLEGE OF MEDICINE
Graduate Researcher

Philadelphia, PA
2020-2025

Led two independent research initiatives focused on advancing liver cancer therapeutics and understanding:

Project 1: Identified and characterized a novel liver-specific long non-coding RNA with tumor-suppressive properties through integrated wet-lab and computational approaches, utilizing RNA-seq data from multiple sources (in-house, TCGA, GTEx, GEO) combined with colony formation assays, protein synthesis experiments, TREX mass spectrometry, and other techniques as listed above to elucidate its role in regulating translation and ribosome biogenesis pathways, revealing its potential as a therapeutic target and biomarker in liver cancer and HBV infection.

Project 2: Spearheaded computational analysis of 541 transcriptomic samples, leveraging publicly available GEO samples to identify a signature of 2,523 highly variable genes that distinguished cancer subtypes and corresponding cell lines, revealing optimal disease models and potential mischaracterizations in commonly used cell lines.

- Mentored 15 rotation and visiting students during tenure, providing hands-on training in laboratory techniques and experimental design
- Initiated and developed a lab-wide digital centralized repository for common protocols and metadata, standardizing procedures for better reproducibility between colleagues and improved onboarding efficiency for new lab members
- Identified and implemented ~\$6000/yr. cost-saving measures for common supplies by orchestrating pickups with local wholesalers, optimizing the lab's budget allocation.
- Established a key international research collaboration through conference material review and networking, expanding the lab's research capabilities and opportunities

PROFESSIONAL EXPERIENCE

ACCENTURE FEDERAL SERVICES

Washington, D.C.

Technology Consultant

2017-2019

Led a 12-person Scrum team through complex custom software and data dashboard integration projects, serving as a requested primary interface for 4 regular 'diamond client' (\$100+ million revenue per year) stakeholders while expanding new and existing functionality.

- Leveraged system architecture expertise to develop user requirements, technical specifications, and business logic for new client-requested functionality while ensuring seamless integration with existing databases, APIs, and data flows
- Contributed to sprint planning and level-of-effort estimates and provided feedback on junior team members' performance reviews and promotion recommendations
- Authored SQL/CQL and Python monitoring scripts that were formally adopted into the company's 24/7 production dashboard metrics, improving visibility into system performance and early issue detection
- Oversaw production releases and provided on-call emergency support

Technology Consulting Senior Analyst

2015-2017

Spearheaded backend-to-frontend integration efforts, ensuring data integrity and functional cohesion throughout the system architecture. Recognized as rising subject matter expert for critical system components, regularly consulted by both client stakeholders and internal leadership. Employed SQL/CQL and data analytics to identify root cause issues for client-submitted issues and tickets.

- Mentored 4 junior team members on backend testing methodologies, equipping them with skills to independently identify and report complex integration issues
- Created a standardized workflow document that became the official protocol for handoffs between developers and backend testers in lower environments, reducing error rates leading up to production deployments
- Generated and maintained interface control documentation for core system components

Technology Consulting Analyst

2014-2015

Conducted comprehensive backend testing for new feature implementations, ensuring functional correctness across database storage, JSON messaging, and system logic

- Verified correct functioning of new development in lower environments using UNIX and SQL/CQL, collaborating directly with developers prior to production release
- Obtained public trust clearance

EDUCATION

DREXEL UNIVERSITY

Philadelphia, PA

Ph.D., Molecular and Cellular Biology and Genetics

2021-2025

- Awards: Drexel University Graduate College Outstanding Mentor Award (2024), 1st Place: Best Trainee Poster Presentation (2023 Sydney Kimmel Cancer Center Trainee Retreat)
- Elective coursework in Biochemical Data
- GPA: 4.00

M.S., Molecular and Cellular Biology and Genetics

2019-2021

- Elective coursework in Cancer Biology, Drug Discovery and Development
- GPA: 4.00

UNIVERSITY OF MARYLAND COLLEGE PARK

College Park, MD

B.S., Bioengineering

2009-2014

- Dean's Scholarship Award
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