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Professional Summary

Data science and bioinformatics professional with over 8 years of experience in clinical diagnostics, oncology data analysis, and machine learning applications in translational research. Proven expertise in next-generation sequencing (NGS), clinical data pipelines, and regulatory-compliant workflows. Demonstrated success in leading cross-functional teams, mentoring junior analysts, and contributing to predictive model development to support precision medicine.

Education

Master of Science in Data Science
Boston University, Boston, MA
Master of Science in Bioinformatics
Boston University, Boston, MA – *Graduated with Honors*
Bachelor of Science in Computer Science
Framingham State University, Framingham, MA – *Graduated with Honors*

Technical Skills

Programming & Tools: Python, R, SQL, Bash, Tableau, Docker, NextFlow, AWS
NGS & Omics: RNA-Seq, WES, single-cell RNA-seq, GATK, R Bioconductor
Statistical Analysis & ML: Regression, hypothesis testing, classification models, variant annotation with ML support
Clinical Data Science: Data integration from EMRs and diagnostics, oncology clinical data analysis
Platforms: Sun Grid Engine, cloud-based analysis tools, CLIA/FDA/HIPAA-compliant workflows

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Professional Experience

Data Scientist / Bioinformatics Scientist
BostonGene Corp – Waltham, MA *January 2024 – September 2024*

- Developed and optimized RNA-Seq and WES data processing pipelines for oncology-focused diagnostics.
- Automated NGS workflows and implemented quality control pipelines under CLIA-compliant standards.
- Collaborated with clinical teams to analyze patient-specific molecular profiles and generate actionable insights.
- Delivered high-quality reports and visualizations to guide precision oncology initiatives.

Bioinformatics Scientist
Quest Diagnostics – Marlborough, MA
June 2015 – July 2023

- Designed and maintained NGS analysis pipelines to support diagnostic test development and validation.
- Supported the Genomic Variant Science group by annotating variants using an ML-based model to assess pathogenicity, integrating internal assessments with public databases such as gnomAD.
- Integrated and transformed large-scale genomic and clinical datasets for diagnostic use.
- Performed advanced SQL-based analytics and developed custom tools for operational reporting.
- Led process improvement projects that enhanced throughput and reliability in a regulated environment.
- Mentored junior team members and facilitated cross-functional communication.

Technical Research Assistant II
Brigham & Women's Hospital – Boston, MA
2012 – May 2015

- Supported translational research by streamlining genomic data processing for inflammation-related studies.
- Built data handling tools to improve LIMS integration and lab workflow efficiency.
- Acted as a liaison between wet lab and computational teams to ensure cohesive project execution.

Leadership Highlights

- Directed data science efforts integrating clinical diagnostics with NGS data.
- Spearheaded automation strategies that enhanced pipeline performance and regulatory compliance.
- Developed dashboards and reports that supported oncology case reviews and clinical decisions.Mentored junior analysts and contributed to team training on data science tools and best practices.

Selected Achievements

- Supported variant interpretation using ML-assisted tools for genomic pathogenicity annotation.
- Automated pre- and post-processing pipelines reduced turnaround time by 40%.
- Delivered precision oncology insights to support clinical decision-making.
- Led initiatives improving data accuracy, consistency, and regulatory alignment.