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Title: SRS Sr. Bioinformatician, Clinical Science and Technology	Job Code: Full time exempt
Reports To: Program Director, Clinical Diagnostics	Location: Arlington, VA

Organization Overview

The Medical Device Innovation Consortium (MDIC) is a public-private partnership collaborating on regulatory, scientific, and health economic challenges within the medical device and diagnostic industry. Through its partnership with industry stakeholders, MDIC coordinates the development of methods, tools, and resources used in managing the total product life cycle of a medical device. Offering guidance and leadership, MDIC members shape the future of healthcare by providing subject matter expertise to working groups aimed at advancing approaches that promote patient access to safer and more innovative medical technologies.

Position Overview

The Somatic Reference Samples (SRS) Senior Bioinformatician will be responsible for leading the genome sequence data analyses for the SRS Project. This project will develop engineered somatic reference samples for benchmarking performance of molecular diagnostic tests for cancer. This position will develop bioinformatics pipelines to analyze extensive short-read and long-read sequencing performed by multiple contractors and laboratories, coordinate validation with NIST Principal Investigator and selected laboratories, and make publicly available the genomic datasets on PrecisionFDA and NIH repositories.

This position would be responsible for development of benchmark sets for somatic reference samples, similar to the benchmark sets available for normal samples from NIST and the Genome in a Bottle Consortium (GIAB). This project will use an open science approach, sharing data and analysis results without embargo through a public repository. Candidate would ideally present a poster or talk at 1-2 conferences per year to regularly engage with SRS stakeholders and solicit feedback, along with developing manuscripts describing data/benchmark sets/benchmarking methods. The candidate will lead development of the benchmark sets for the MDIC somatic reference samples, characterizing presence of desired genome edits and off-target edits along with low frequency variants in one of the world's most deeply characterized genomes from GIAB (HG002). The ideal candidate will have a background and passion for understanding strengths and biases of genomic measurements with a focus on somatic human whole genome sequencing. Ideal background includes formal training (MS with strong publication record or PhD) or work experience in bioinformatics, computational biology, computer science, applied math/statistics, or biology/genetics with appropriate command-line and programming knowledge. This position reports to the Clinical Diagnostics Program Director and will have exposure to national leaders in the patient, medical device industry, academic and regulatory institutions, and organizations.

Objectives and Responsibilities

- Lead SRS bioinformatics activities to validate reference samples that can be used to develop and benchmark performance of molecular diagnostic tests for cancer.
- Develop methods to integrate extensive sequencing data to form benchmark variant sets for somatic reference samples
- Curate sequencing data to improve and evaluate draft somatic variant benchmarks
- Manage sequencing data from SRS and make data public
- Complete assigned deliverables in consultation with the Program Director, Clinical Diagnostics
- Provide regular updates on progress to the Program Director
- Support MDIC's mission of advancing the field of medical device regulatory science
- Coordinates, executes, and facilitates meetings with external partners and stakeholders, including acting as a liaison with funding agencies
- Represents MDIC at conferences and other events and meetings
- Contributes to the overall development of MDIC, taking on responsibility or additional duties that may fall outside the general duties listed above

Requirements

- Understanding of Next Generation Sequencing methods
- Experience with analyzing Next Generation Sequencing data on the command-line
- Experience performing analyses on the cloud or high-performance computing systems
- Master of Science/Arts degree or equivalent experience
- Ability to coordinate and manage multiple priorities and prioritize tasks and complete tasks in a timely manner
- Ability to work in a fast-paced environment with multiple demands
- Ability to follow-up and follow through on actions as necessary

Other Skills/Abilities

- An ideal candidate would have understanding of and experience with somatic variant calling, machine learning approaches, CRISPR technologies, and/or molecular diagnostics.
- Experience with bioinformatics pipelines such as snakemake, WDL, or CWL
- Experience managing and publishing large genome sequencing datasets
- Ability to be flexible and work collaboratively as a team within a dynamic, start-up work environment
- Interest in the medical device industry and enterprise with a willingness to engage in continuous learning and professional and personal growth
- Interest in working and engaging with different stakeholder groups
- Self-motivated, self-directed and a quicker learner
- Experience working with virtual teams is a plus
- Some travel may be required

Reporting Relationships

The SRS Sr Bioinformatician will report to the Program Director, Clinical Diagnostics.

NOTE: This scope of services is not intended to be all-inclusive. Individuals may be asked to perform other related duties as required to meet the ongoing needs of the organization.

To apply, please submit a resume and cover letter to: careers@mdic.org

MDIC provides equal employment opportunities (EEO) to all employees and applicants for employment without regard to race, color, religion, sex, national origin, age, disability or genetics. In addition to federal law requirements, MDIC complies with applicable state and local laws governing nondiscrimination in employment in every location in which the company has facilities. This policy applies to all terms and conditions of employment, including recruiting, hiring, placement, promotion, termination, layoff, recall, transfer, leaves of absence, compensation and training.

MDIC is an Equal Opportunity Employer.