

Computational Biologist

Full-time (in person) - Toronto, Ontario

Join Shift Bioscience, where you'll collaborate with a passionate, cross-disciplinary team advancing cellular rejuvenation therapies to tackle chronic diseases and extend healthy human lifespan.

Shift Bioscience Ltd is a biotechnology company pioneering rejuvenation therapies that safely reverse cellular aging. Our discovery platform combines single-cell biology with machine learning to identify and validate rejuvenation factors that reverse the age of cells and tissues.

We've developed a highly accurate single-cell clock that allows us to rapidly screen candidate rejuvenation factors. We also build virtual cell models to predict the effects of unseen genes across the combinatorial gene space to discover new targets. Earlier this year, we announced a rejuvenation factor showing preliminary efficacy across multiple tissue types, and we're now advancing the next generation of our platform toward clinical translation.

It's an exciting time to join; you'll contribute to high-impact science in close collaboration with wet- and dry-lab teams, helping shape the future of our platform and the field of rejuvenation biology.

The Role

As a **Computational Biologist** at Shift, you'll partner closely with our wet-lab team, design and run robust analyses, and help discover novel rejuvenation factors. You'll own pipelines and analyses across large-scale genomics data (with an emphasis on single-cell and methylation) and help evolve our AI-based target discovery platform. The ideal candidate combines a solid biology background with strong software development capabilities and clear communication (machine learning experience is a plus).

This role is an opportunity to be part of a journey where your expertise shapes the future of scientific discovery.

What will you do?

- Build and maintain production-grade genomics pipelines (e.g., Nextflow)
- Analyse large-scale datasets (scRNA-seq, DNA methylation)
- Implement and apply aging clocks
- Collaborate with wet-lab scientists to test hypotheses and unblock experiments
- Write clean, documented, and reproducible analysis code
- Present results clearly in reports, slides, and (where appropriate) publications
- Support development of our ML-driven target discovery platform

What are we looking for?

Must have skills:

- Competency with **single-cell RNA-seq analysis** (e.g., Scanpy; alignment tools like STARsolo)
- **Python** fundamentals (numpy, pandas, matplotlib, etc)
- **Linux, Bash**, and **Git/GitHub** proficiency
- Strong **biological understanding** and solid **communications** skills
- Familiarity with at least one **workflow language** (e.g., Nextflow, Snakemake)
- **Work Authorization**: You'll need to be legally eligible to work in Canada. In some cases, we may be able to provide support with work permits.
- **Experience**: 4+ years (2+ with Master's; no minimum with PhD)
- **Education**: Bioinformatics, Data Science, Biology, or related

Nice to have:

- **R** (Seurat, tidyverse)
- **Publications** showcasing computational biology contributions
- **DNA methylation** datasets & age-prediction experience
- **AWS** basics (EC2, S3, IAM)
- Familiarity with **cloud or HPC** computing environments
- Applied **machine learning**
- Wet-lab exposure/collaboration experience
- Prior involvement in the **longevity** community / strong mission alignment

What we offer

Join a team at the forefront of scientific innovation, where your contributions can make a lasting impact on healthcare, shaping a future that extends the prime of life. You'll work on problems that matter and have the opportunity for rapid role progression if you'd like it.

We offer flexible work options allowing you to manage your own time and on-demand learning and training to support your career growth as well as conference attendance. You'll be based in our modern, fully equipped office space at WeWork in the heart of Toronto and will collaborate closely with our wet lab and leadership teams at our headquarters in Cambridge, UK, through regular interactions and occasional visits. We offer a competitive salary (commensurate with skills and experience), with annual reviews that reflect both your performance and the company's growth. In addition, you will be eligible to participate in our employee share option scheme and will receive comprehensive health and dental coverage, along with generous paid vacation entitlements.

How to apply

Please send your CV, GitHub (or code samples) and a short covering note outlining your interest and suitability in the position to cbhiring@shiftbioscience.com using the subject line “Computational Biologist — Toronto”. You can expect to receive feedback within two weeks.

Interviewing with us

Most interviews will be held via video conference with our team in Cambridge, UK, with some taking place in person at our Toronto office. We'll work with you to make the process as smooth and flexible as possible. There are typically three stages: an initial chat to understand your motivations and interests, technical assessment and team interviews. We will provide more information as you pass through each stage.

At Shift, we value ability and results, fostering a meritocratic culture that embraces respect, reliability, collaboration and communication. As a small, close-knit team, we'll make sure you meet as many of us as possible so you can get a real sense of our culture and imagine yourself as part of it.