Reviewer's report

Title: Performance of Genetic Programming Optimised Bowtie2 on Genome Comparison and Analytic Testing (GCAT) Benchmarks

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Reviewer: Xiaochuan Liu

Reviewer’s report:

This manuscript presents a comparison between original Bowtie2 and genetic programming optimized Bowtie2. Results show some promising performance for their methodology proposed in this paper. While it is a very interesting topic, there are several issues:

1. In table 1, it only shows the millions of DNA bases processed per CPU hour. But it is recommended to show #total reads for each sample, %mapping, and %accuracy between original Bowtie2 and genetic programming optimized Bowtie2.

2. In figure 1 and 2, what is the definition of “%correct”? Authors should describe in sufficient detail so that readers (and reviewers) may better evaluate the results.

3. The reference is insufficient.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests