

Review of 2B

October 10, 2019

Rating:

1. What is the potential for the proposed activity to:
 - (a) Intellectual Merit? Excellent
 - (b) Broader Impacts? Excellent
2. Creative, original, or potentially transformative concepts? Very Good
3. Proposed activities well-reasoned, well-organized, and based on a sound rationale? Incorporate a mechanism to assess success? Excellent
4. How well qualified is the individual, team, or institution to conduct the proposed activities? Very Good
5. Adequate resources? Excellent

Summary

Intellectual Merit

There seems to be a great deal of intellectual merit in this proposal. This is a more robust version of this algorithm than has been implemented in the past, and the reasoning behind the algorithm seems grounded in good science. It is plain to see that it will be more sensitive than previous alignment methods and this will meaningfully contribute to the research in the field.

Broader Impacts

The broader impacts are mostly apparent in this proposal. As this more alignment algorithm searches in a space currently unexamined, these spaces will reveal as yet unannotated sequences as well as help with acquiring alignments even in the presence read-errors and indels. This has high likelihood to progress many types of genetic research.

Summary Statement

Everything in the proposal seems to be very good to excellent in quality. Only issues is to perhaps expand the method/assessment section, maybe making more explicit how the accuracy of the software will be analyzed. With respect to being well-qualified and having adequate resources, not much is mentioned. But qualifications might fit better in the personal statement. With respect to having adequate resources, maybe have a brief statement about HMMER being free and open source, as well as having access to the necessary genetic databases for testing purposes.