Reviewer's report

Title: Optimal classifier selection and negative bias in error rate estimation: An empirical study on high-dimensional prediction

Version: 2 Date: 21 November 2008

Reviewer: Wenjiang Fu

Reviewer's report:

This article is interesting in studying the report bias towards the optimal selection of results. This is certainly an interesting issue in the current publication review and process. I would like to see this kind of paper to address this issue that potentially be overlooked by many investigators due to many reasons.

However, I believe that although the authors have done a lot of computational work, the paper is lack of rigorous support from the statistical point of view. Their viewpoints are supported by the simulations, but more rigorous work will make it more convincing. I also feel that the authors should make their suggestions or the innovation in the main result, rather than just speculating in the discussion section. Overall, I think there is much work need to be done before the paper is rigorous enough to be published. But I do encourage the authors to do so.

The authors should also pay attention to details. For example, they mentioned in the results section their first data set of colon cancer. They said in line 6 of page 9 "22 normal and 40 healthy tissues". I believe this is not correct and I went on and checked the original paper and found it should be "40 tumor tissues", rather than "40 healthy tissues".

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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