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Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	Ms_BJMCS_27023
Title of the Manuscript:	Frequentist Approximation of the Bayesian Posterior Inclusion Probability by Stochastic Subsampling
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	Page 8 and 9. Reconstruct Fig. 4 and Fig.5 into tables and define *, **, *** according to the corresponding significance they measure below the table. Page 9. Reconstruct Figure 5 into a table. Enlarge figure 6 to improve visibility.	All changes completed by the authors
Minor REVISION comments	Page 2, paragraph 1, line 7. Define I_n as an $n \times n$ identity matrix. Page 2, eqn (2.1). MVN should be defined as Multivariate Normal. Page 3, eqn (2.5). Provide space between "if" and Π_j. Page 4, paragraph 2, insert "get" between "should" and "a". Label the equation after eqn (3.1). Page 5, paragraph 2, last sentence should read; "The goal of this project is to generate an alternative classification model using regression techniques". Page 6. Enlarge Fig 1 to improve visibility. Page 7. Enlarge Fig 2 to improve visibility. Please provide table titles on top of the tables. Page 7, paragraph 1, last sentence should be extended with ... "as illustrated in Fig 4". Page 7, rephrase the last sentence. "In the next section, we will examine how to find a more robust	All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors



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	method to truly identify significant variables". Page 8. The box plot is an exploratory data analysis plot that reveals the five measure summary of a data set. Points outside fence are position of observations classified as of outliers. Please comment on Fig 3. Page 8. Please be specific and avoid using words like "high Confidence", "below". Identify tables and figures with their labels. Note that all figures should have their labels below and tables with titles on top. Page 10, paragraph 2, line 13. Insert "that" between "change" and "the". Page 10, paragraph 2, line 3. Replace "for" with "were" between "accuracies" and "calculated". Page 10/11, provide titles for the tables and explain in context the values in the tables. Page 11, paragraph 2, line 4. What is the meaning of "respectable accuracies". Page 13/14. Provide title for table. What dimensionality reduction technique was employed by authors before the application of Multi-Layer Perception (MLP). Page 14, Last paragraph, line 4. Replace "of" with "if". Please rephrase the last sentence. (Replace "only beat" with "out-performed".) Page 15, 16. Provide table title, label and punctuate equation.	All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors All changes completed by the authors
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	Page 16. MLR (Multiple Linear Regression) undefined. Page 18. Reconstruct Fig 11 into a table. Page 20. BMS undefined in Fig 14. Page 20, 22. Provide table title. Page 23, line 11. Rephrase the sentence “Even more importantly ...”. Page 23, line 17. Replace “once” with “one”. Adapt SDI reference style for manuscript.	
<u>Optional/General</u> comments	The study only proposed an approximation to Bayesian inclusive probability (PIP). It is not indicated anywhere in the manuscript how the stochastic subsampling alternative outperformed the Bayesian PIP. Authors should note this. The author only used exploratory plots of mean square errors and relative press from Bayesian and frequentist methods for comparison. They can explore more empirical approaches for comparing two statistical odels.	The goal of this paper is not necessarily to outperform the Bayesian PIP, but instead to provide a frequentist analogue of the same that is easier to understand by practitioners who are NOT Bayesians It is fair to say that the current plots explain the comparisons quite clearly and should suffice.