# IMSISS Dissertation Feedback & Mark Sheet

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| **Student Matriculation No.** | **Glasgow** 2486963 **DCU** 19108788 **Charles** 31001130 |
| **Dissertation Title** | Systems in the Subcontinent: Data, Power, and the Ethics of Medical Machine Learning in India |

### *INDIVIDUAL INSTITUTION GRADING*

| ***Reviewer 1 Initial Grade*** | ***Reviewer 2 Initial Grade*** | ***Late Submission Penalty*** |
|---|---|---|
| *Select from drop down list* | *Select from drop down list* | *Select from drop down list* |

***Word Count Penalty*** *(1-15% over/under = 1gr point; 15-20% over/under = 2 gr points; 20-25% over/under = 3 gr points; more than 25% over/under = 0 fail)*

***Word Count:*** 21100 ***Suggested Penalty:*** *Select from drop down list*

### *JOINT GRADING (subject to agreement of the external examiner and approval at Joint Exam Board)*

***Final Agreed Mark.*** *(Following correspondence reviewers should list the agreed final internal grade taking before and after any penalties to be applied).*

***Before Penalty:*** A5 [18] ***After Penalty:*** Select from drop down list

### *DISSERTATION FEEDBACK*

| ***Assessment Criteria*** | ***Rating*** |
|---|---|
| **A. Structure and Development of Answer**<br>This refers to your organisational skills and ability to construct an argument in a coherent and original manner | |
| • *Originality of topic* | Excellent |
| • *Coherent set of research questions and/or hypothesis identified* | Excellent |
| • *Appropriate methodology and evidence of effective organisation of work* | Very Good |
| • *Logically structured argument and flow of ideas reflecting research questions* | Very Good |
| • *Application of theory and/or concepts* | Excellent |
| **B. Use of Source Material**<br>This refers to your skills to select and use relevant information and data in a correct manner | |
| • *Evidence of reading and review of published literature* | Excellent |
| • *Selection of relevant primary and/or secondary evidence to support argument* | Very Good |
| • *Critical analysis and evaluation of evidence* | Very Good |
| • *Accuracy of factual data* | Excellent |
| **C. Academic Style**<br>This refers to your ability to write in a formal academic manner | |
| • *Appropriate formal and clear writing style* | Excellent |
| • *Accurate spelling, grammar and punctuation* | Excellent |
| • *Consistent and accurate referencing (including complete bibliography)* | Excellent |
| • *Is the dissertation free from plagiarism?* | Yes |
| • *Evidence of ethics approval included (if required based on methodology)* | Not required |

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| • *Appropriate word count* | Yes |

***ADDITIONAL WRITTEN COMMENTS***

***Reviewer 1***

This is a very ambitious dissertation, both in the choice of subject and in terms of the wide-ranging literature and theoretical ideas which the author draws upon and which are then applied to her case of India. The writing is impressive and very well referenced though there is a tendency towards overly complicating central ideas and key arguments. Overall, the author is to be highly commended for identifying a very interesting and current topic - the implications of inducting Machine Learning as a means of managing and intepreting data and its impact on analytical and diagnostic systems in the realm of health care.

The dissertation is at its strongest in its theoretical and conceptual discussions about how to go about analysing this particular phenomnenon and its repercussions which are in the process of unfolding.

Turning to the experience of India, the author offers a number of good reasons why India is an interesting and important case (its scale, diversity, institutions, political fortunes and its position globally as an IT player). The analysis however of how medical machine learning is emerging in the case of India and the implications is less convincing. This is in part due to the ambitious scope of the dissertation which seeks to explore a number of big issues at once, exemplified in the following sentence which appears at the end of chapter 2: "In essence, the research lacunae in case-specific legislation, technical underpinnings, biases from socio-political disparities and philosophical discourse surrounding ML/AI applicability in Indian healthcare can be overcome through the dissertation" (p 26).

While offering a number of insights into how data can have lethal consequences in its application; identifying loopholes in India's data-protection legislation and highlighting the disoncerting discrepancies caused by conflict and deeply entrenched socio-economic hierarchies, the empirical analysis in the end remains pre-dominantly speculative. At numerous points in the thesis attention is drawn to how technology impacts power dynamics, power relations and power strucures but not enough evidence and analysis is provided of how this is happening in the Indian case.

***Reviewer 2***

This is an exceptionally well-written, carefully presented dissertation. It deals with a very important subject and is clear about its contribution and originality. You highlight how pressing the issue is, particularly by linking it to the pandemic. You provide a very extensive literature review, situating the case of India in the context of broader considerations on bioethics, from other parts of the world; this demonstrates wide reading and in-depth research. The dissertation is particularly strong in the way it presents insightful and fascinating reflections on moral aspects of the use of technology, drawing from the philosophy literature.

My main comment is that the scope of the research could have been narrowed down, for a more targeted discussions of particular aspects of ML/AI, or possibly particular regions of India. There is a long list of primary and secondary sources that were considered for the dissertation, and perhaps you could have selected a few primary sources for more in-depth analysis. The dissertation, while well-executed, provides considerations that are somehow speculative. You make the point, for example, that the current conditions surrounding the use of ML/AI are LIKELY to lead to faulty data and violations of privacy (for example, in these excerpts of

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sentences: ‘diagnostic model MAY create two deadly situations’, or ‘utility of ML/AI models in Indian healthcare MAY hit a dead-end’, or ‘the POTENTIAL for automated systems to augment epidemiology’ or ‘the deployment of medical ML/AI CAN influence power dynamics'). On the one hand, these are certainly important considerations, which reflect your research questions, and your argument is presented in a very clear, persuasive way; on the other hand, I found myself looking for more concrete findings and empirical data, which would have made your argument even stronger (could you have included, for example, evidence of power dynamics having already been influenced in particular ways?). The chapters are logically structured (and a clear outline is provided at the beginning), yet in some cases the text felt a bit repetitive and general (for example, I was surprised, when, on p. 60, you returned to the issue of agency of nonhuman actors, as this issue was treated in the theoretical part of the dissertation).
The last part, on policy, is very important, but perhaps it could have been shortened to leave more space for the analysis of empirical data.
These considerations notwithstanding, overall it is a very solid piece of work, addressing a fascinating and pressing theme.