

Feedback on Literature Review Outline

Title: Implementing Machine Learning Techniques in Epidemic Modelling

Module: Research Methods and Professional Practice

Thank you for submitting your literature review outline. The topic you have chosen—evaluating the use of machine learning techniques in epidemic modelling—is timely, technically significant, and highly relevant to applied computing research. Your proposal demonstrates a solid understanding of both traditional epidemiological modelling methods and the evolving landscape of machine learning applications in this field. The intention to compare these approaches with a focus on methodological rigour, model performance, and limitations aligns well with the module's emphasis on critical and applied analysis.

Your outline presents a clear research purpose and identifies a compelling rationale for conducting the review. The comparison between classical epidemiological models and machine learning alternatives is both appropriate and feasible within the scope of computing research. Furthermore, your attention to evaluation metrics, training methodologies, and data sources demonstrates methodological awareness that reflects the research competency expected at this level.

However, there are several areas that require refinement to ensure the review is manageable within the 2,000-word limit and meets all academic expectations for the summative assessment.

Scope and Focus

Your proposed topic is conceptually strong, but it currently spans a broad range of considerations—from foundational definitions and model comparisons to in-depth evaluation of methodological approaches. Given the constraints of a 2,000-word literature review, attempting to explore multiple dimensions in equal depth may limit your ability to engage critically with any one issue. To address this, you might consider narrowing your focus further. One option could be to concentrate primarily on a comparative analysis of ML model performance versus classical approaches in terms of one or two key metrics (e.g., accuracy and interpretability). Alternatively, you might centre your review on methodological considerations alone, such as how different studies handle model validation, training data quality, or real-world applicability. A more sharply defined scope will allow you to provide a deeper and more meaningful discussion of the literature, which is essential for success in this module.

Citation and Referencing

At this outline stage, specific citations and references are not yet included. However, please ensure that your final submission includes consistent in-text citation throughout and a properly formatted reference list in alphabetical order at the end of the document. You should use an established referencing style—such as APA or Harvard—and apply it consistently. Every source cited in the text must appear in the reference list, and vice versa. Since the strength of your review depends in part on your ability to critically analyse existing literature, effective citation practice is crucial.

Critical Evaluation

Your plan to include a section focused on discrepancies and limitations in the literature is appropriate and aligns well with the module's emphasis on balanced academic analysis. However, for your summative review, this section should go beyond descriptive summary and aim to interrogate the quality, consistency, and implications of the methodologies employed in the studies you review. You should actively compare and contrast the findings, highlight differing assumptions or approaches, and explore the consequences of these differences for the field as a whole. Ideally, you will present not just the strengths of ML techniques but also engage with criticisms, limitations, and the conditions under which traditional models may still outperform or offer complementary value. This level of critique is essential for demonstrating postgraduate-level analytical skills.

Methodological Clarity

Your intended focus on methodology is commendable and well aligned with the goals of this module. Your outline already signals an understanding of key elements such as training methods, data sourcing, and evaluation metrics. However, be careful to remain strictly within the boundaries of secondary research. Your review should analyse studies that are already publicly available—there should be no suggestion of collecting new datasets, developing new models, or applying ML techniques directly. Be explicit in your summative version that you are comparing and evaluating published literature, not conducting original modelling or analysis. This distinction is vital to comply with the academic and ethical guidelines of the module.

Academic Style and Presentation

As you move toward the summative version of your literature review, ensure that the writing remains formal and academic in tone throughout. Avoid informal phrasing, maintain clarity and objectivity, and use section headings to structure the work clearly. Your document should include page numbers, follow a coherent introduction-body-conclusion format, and adhere to the required word count. Proper presentation and organisation will significantly enhance the readability and professional quality of your submission.

Alignment with Module Aims

Your proposed review shows strong alignment with the aims and learning outcomes of the Research Methods and Professional Practice module. It demonstrates an understanding of applied computing, critical engagement with research literature, and methodological awareness. Your focus on evaluation and comparison is particularly well suited to the module's emphasis on analytical thinking and professional relevance. With some refinement to scope and greater clarity in your critical approach, this review has the potential to meet the academic standards expected of MSc-level work.

Summary of Recommendations

To prepare your summative literature review, consider narrowing your topic to enable deeper critical engagement within the 2,000-word limit. Ensure that your methodology discussion is clearly positioned as secondary research only. Include consistent in-text citations and a properly formatted, alphabetically ordered reference list. Expand your critical evaluation to explore methodological differences, conflicting outcomes, and theoretical implications. Maintain a formal academic tone and ensure that your document is clearly structured, with page numbers and clearly labelled sections. Lastly, balance the discussion between the benefits and limitations of ML approaches, and explicitly address the comparative value of traditional models where appropriate.