



CETM47 - Machine Learning and Data Analytics

Assignment 2

Criterion	40-49 (%)	50-59 (%)	60-69 (%)	70-79 (%)	80+ (%)
<p>Outline of how the methodology was applied to the process of Legacy Data Mining with evidence supported by artefact.</p> <p>(20%)</p>	<p>An outline of the methodology followed is presented, but may be shallow in depth, or contain some factual errors.</p> <p>No evidence supporting methodology phases is presented.</p> <p>Some details provided regarding a single NLP Pipeline, this may be incomplete and/or erroneous.</p>	<p>In addition to previous.</p> <p>A complete outline of the methodology followed is presented, with some sections evidenced back to code.</p> <p>Definition of a single NLP pipeline, including appropriate classification model, is complete.</p> <p>Definition of Task is complete and without error.</p>	<p>In addition to previous.</p> <p>Each phase of the methodology followed is supported by empirical evidence taken from code.</p> <p>Methodology phases are contextualised to the problem domain.</p> <p>Multiple solutions are defined with some rationale provided; however, this may lack full depth and balance in all solutions presented.</p>	<p>In addition to previous.</p> <p>Methodology is well outlined, with sections broken down into sub-sections with strong evidencing of process.</p> <p>Contextualisation of the process as applied to the problem domain is well-presented.</p> <p>Multiple solutions are well-defined, in terms of both NLP representation and the classification model, with differences between experiments clearly stated and rationalised.</p> <p>Rationale provided is error-free, and relates to both theoretical knowledge and empirical process.</p>	<p>In addition to previous.</p> <p>Deployment and Business Understanding phases are presented as a hypothetical scenario and contextualised to the given domain.</p> <p>Alternative and/or additional methodologies are evidenced, and fully justified, alongside their interactions with the current methodology.</p> <p>Extensive range of experiments defined methodically, in-line with techniques of scientific enquiry from academic literature.</p>
<p>Presentation of results, and any accompanying figures.</p> <p>(10%)</p>	<p>A results section is presented. This may cover the accuracy of a singular solution and may contain some error.</p> <p>Video presentation contains results from this section, but may not fully match what is within the report.</p>	<p>In addition to previous.</p> <p>Single Model classification accuracy is presented without error.</p> <p>Additional Model metrics may be attempted.</p> <p>Video presentation presents relevant metrics, with some discussion. However, the explanation of the process may be lacking depth. Results presented match those within the report.</p>	<p>In addition to previous.</p> <p>Multiple experiments are evaluated. Contains TP, TN, FP, FN metrics.</p> <p>Additional figures and/or tables may be present.</p> <p>Video presentation presents relevant metrics, with detailed discussion. Challenges faced and limitations are attempted, but may not be fully realised.</p>	<p>In addition to previous.</p> <p>Results table(s) provided, enabling comparison of solutions to a baseline.</p> <p>Confusion Matrices are correctly generated and provided. Additional figures may be provided to provide rationale to other sections of the report.</p> <p>Video presentation fully realises challenges faced and limitations. Links to literature may be presented.</p>	<p>In addition to previous.</p> <p>Results are presented excellently, making good use of the appendix for additional entries, and is without error.</p> <p>Additional fit-for-purpose metrics are reported, with results table(s) expanded to additionally include different input feature sets for each model.</p> <p>Video presentation results section is fully detailed, with thorough discussion, and shows strong and clear linking with</p>



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					up-to-date and relevant academic literature.
Critical evaluation of presented results and evaluative methodology (20%)	Evaluation of results is attempted, but may be limited in scope and/or not cover all aspects of the presented results. No evaluative methodology is presented/attempted.	Results are interpreted correctly in the context of the assignment. An evaluative methodology is presented, but may be brief, limited, missing steps, or contain some error.	In addition to previous. Results are interpreted and related back to the experimental choices made by means of a comparison, using the outlined evaluative methodology.	In addition to previous. An evaluative methodology is outlined and explained well, making use of advanced concepts for establishing reliability in results provided, and is error-free. Results are thoroughly and critically evaluated, making reference to several advanced evaluative metrics.	In addition to previous. Academic literature is consulted for the presentation of a viable evaluative methodology, with excellent rationale for its choice with brief considerations of alternatives.
Discussion of key findings and future works (25%)	A limited discussion is presented and may be erroneous in places. No future works are discussed or presented. Video presentation contains results from this section, but may not fully match what is within the report.	In addition to previous. Discussion appropriately summarises the key findings of the evaluative section, with some linking back to the problem. Future works are attempted, but may be limited in scope and detail or contain factual errors. Video presentation discusses main takeaways and reiterates the final conclusion.	In addition to previous. Discussion summarises key findings, and makes comment on comparisons between experiments; some reflection is present. Future works are detailed and appropriate for the domain/task, but may lack context to the exact findings in this assignment.	In addition to previous. Discussion summarises key findings, and thoroughly covers comparisons between experiments; critically reflecting on this choice and comparison. Future works are fully considered, with good rationale linking back to the findings of the assignment. Video presentation discusses potential improvements and future research directions in context of the experiments conducted.	In addition to previous. Discussion relates key findings and interesting observations back to both the task and literature as a whole, identifying research-aligned goals and techniques to investigate for future works. This includes how the challenges faced in this assignment relate to those faced in wider literature.



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<p>Demonstrate the use of Python / Jupyter Notebooks for the NLP Pipeline and experiments</p> <p>(25%)</p>	<p>A NLP pipeline is presented converting text into numerical representations. Classification model is attempted, but may be erroneous or incomplete.</p> <p>Video Presentation may lack cohesive structure, and be difficult to understand.</p> <p>An explanation of the code is provided from the video presentation, but this is limited in scope or lacking sufficient depth.</p>	<p>In addition to previous.</p> <p>A single classification model is created and trained appropriately. Single experiment/variation is conducted.</p> <p>Video presentation is of a good standard, with few mistakes. Evidence of clear presentation structure.</p> <p>The video presentation provides a walkthrough and explanation of the functionality of the majority of the code submitted.</p>	<p>In addition to previous.</p> <p>Python code matches fully against proposed experimental design from the report.</p> <p>Solution may use a singular classification model, but contains experiments investigating variation in the NLP representation within the pipeline.</p> <p>Evaluation metrics are generated by predicting on a trained model. This is done utilising default data partitioning. Commenting is present and appropriate.</p> <p>Video presentation is of a high-standard, including structure and arguments made.</p> <p>The video presentation provides a detailed walkthrough and explanation of the functionality of the code in all aspects. Technical aspects are broken down and explained clearly.</p>	<p>In addition to previous.</p> <p>Code is well-organised into sections representing each experiment.</p> <p>Python code is well-documented, with reference to documentation where appropriate.</p> <p>Multiple Classification models, alongside NLP representation variations are explored. Overall Experiment orchestration shows good practice involving data and reproducibility in results, enabling correct comparisons between runs and experiments.</p>	<p>In addition to previous.</p> <p>Model hyper-parameters are explored and expertly determined from data-driven processes.</p> <p>Advanced training methodologies, supported by literature, are utilised.</p>
Weighting	All criteria are weighted as shown by the percentages indicated in the relevant criterion box.				