CMP9794M Advanced Artificial Intelligence Assessment Item 1 of 2 - 2022-2023

Learning Outcome	Criterion	Pass	Merit	Distinction
[LO1] Critically appraise a range of AI techniques for knowledge representation, reasoning and decision-making under uncertainty, identifying their strengths and weaknesses, and selecting appropriate methods to serve particular roles; [LO2] Design and develop a software algorithm for solving complex AI problems in an application domain of interest.	Discrete Bayesian Networks (weight=**30%**)	The software partially solves (or with critical errors) the task of answering probabilistic queries using Bayes nets with discrete variables. The provided solution is mostly based on materials provided by the module with only minor additions. The report lacks a convincing justification of the choices made on discrete Bayesian nets.	The software mostly solves, but with substantial errors, the task of answering probabilistic queries using Bayes nets with discrete variables. The provided solution is based on materials provided by the module with major additions. The report clearly explains and justifies the choices made on discrete Bayesian nets.	The software correctly or elegantly solves, without significant errors, the task of answering probabilistic queries using Bayes nets with discrete variables. The submitted software substantially extends materials provided by the module. The report clearly discusses and justifies the choices made on discrete Bayesian nets.
	Comparison of inference and structure learning algorithms (weight=**40%**)	The software partially compares (or with critical errors) inference and structure learning algorithms for Bayes nets. The corresponding part of the report lacks a convincing justification of the choices made.	The software compares, though with substantial errors, inference and structure learning algorithms for Bayes nets. The corresponding part of the report clearly explains and justifies the choices made.	The software compares, without significant errors, inference and structure learning algorithms for Bayes nets. The corresponding part of the report discusses a clear and convincing evaluation with very good justifications for the choices made.
	Gaussian Discrete Bayesian Nets (weight=**30%**)	The software extends discrete Bayes nets but with critical errors. The report lacks a convincing application of Gaussian discrete Bayes nets.	The software extends discrete Bayes nets but with substantial errors. The report describes a mostly convincing application of Gaussian discrete Bayes nets.	The software clearly extends discrete Bayes nets without errors (or only minor). The report discusses a clear and convincing application of Gaussian discrete Bayes nets – appropriately citing relevant references.
Weighting	As indicated above			


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