**Emergence of Technologies – CAO Allocation**

Dissatisfaction with the CAO system has led a new Minister for Education to propose that the allocation of places in University Programmes should be determined by an AI system based on a Deep Neural Network. The proposed allocation system would be based on a machine learning algorithm trained on the input data of previous students (the admissions information available in your MyTCD profile) along with the ultimate performance of these previous students. The system will be trained to take account of DARE and HEAR students. The system will also take as input scores from the HPAT and the assessment of portfolios where appropriate.

The Minister has heralded the proposed system as the start of a “Brave New World” where places are allocated to the students who are most likely to benefit from being offered a place. The new system will have the flexibility to recognise that a high grade at leaving cert in French is of more significance that a high grade in Irish, for entry onto a degree in French, but because it will be trained on a large dataset of previous students it will identify the optimal weighting. Above all the Minister has promoted the new system on the basis that it will be fair.

This proposal has given rise to concerns among many stakeholder groups, including: candidates, universities, schools, parents organisations, student unions, bodies promoting equal access to third level education and employers. To reassure these groups, the Minister has promised an independent review of the proposed system and your company has been commissioned to undertake this review.

This is the first meeting of the team charged with assessing the proposed system

1. Carry out an initial “Brainstorming” session to identify the potential risks and benefits of the new system. Your session should capture the risks and benefits of all interested parties.

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1. Your group is aware that previous decision-making systems have exhibited unintended bias that came from the training data. This is a particular concern of many of the stakeholders. Please indicate how the data should be pre-processed in order to minimise bias explaining your choices. If you identify any potential sources of bias that cannot be removed, then please comment on them.

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1. Design a series of tests that could be carried out on the new system, post training, to check that it is functioning properly and does not display bias.

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Group Member (Names and Student Numbers)

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