

OptusU Building AI

Individual Assignment – Classification Notebook

Release Date: Tuesday 21 June 2022

Due Date: Sunday 24 July 2022 11:59 PM

Marks: /20

The “Bank Marketing Dataset” contains data collected during a direct marketing campaign conducted by a Portuguese bank to sell term deposits using both outbound and inbound calls. The customer specialists involved in the marketing campaign have recorded 20 customer attributes along with the binary outcome of each call – successful/ unsuccessful.

For the final assessment, you are required to create a classifier that predicts if a client will purchase a term deposit, using Python, Jupyter Notebook and Google Colab.

- The dataset is available on LMS, and the [UCI ML repository](#).
- The associated research article (also on LMS) reports an AUC of 0.8, this is your benchmark.
- The Notebook must document all 16 phases of the AI lifecycle.
- For each phase, delineate a logical thought process in selecting suitable libraries, functions, and commands, use appropriate visualisations and textual descriptions as justification.
- For the phases where a technical deliberation is limited, you must suggest improvements for future iterations that align with the requirements of that phase.
- You may use the Notebooks from the course curriculum as a guide to create your own, however they should not be a direct replication.
- Use both “Text” and “Code” functionality of the notebook, as well as #comments where appropriate.
- The Notebook should conclude with a brief discussion on how a similar model can be used in your work setting.
- Innovative thinking and self-exploration of new libraries are encouraged.

Marking Rubric

Grade	D	C	B	A
Technical Detail (5 marks)	Limited or ambiguous coverage of the phases of the lifecycle	A basic effort in covering the phases of the lifecycle.	A good effort in covering the phases of the lifecycle with appropriate code.	A comprehensive effort in covering the phases of the lifecycle with appropriate code, text and justification.
Technical Quality (10 marks)	Limited use of Python programming and AI libraries	Good use of Python programming and AI libraries	Structured and informative use of Python programming and AI libraries	Full coverage of relevant AI capabilities in Python
Structure & Presentation (5 marks)	Basic structure and articulation of content	Average articulation of content with some structure	Good articulation of content with a clear structure	Excellent articulation of all content + the full AI lifecycle