

COMP 3105 – Assignment 4 Report

– Fall 2025 –

Due: Sunday November 30, 2025 23:59.

Group 51

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Getting started

Note that Python 3.11 is used for this assignment. Please install requirements using virtual environment via:

```
python3.11 -m venv .venv  
source .venv/bin/activate  
pip install -r requirements.txt
```

Question 1 (5%) Learning and Classifying

Implement a Python function `learn(path_to_in_domain, path_to_out_domain)`

Implement a Python function `compute_accuracy(path_to_eval_folder, model)`

Question 2 (5%) Explanation

In the PDF file, explain your learning algorithm and more importantly, why it is designed this way. The report should be at least 2 pages, but no longer than 8 pages in length.

Question 3 (5%) Evaluation

For this question, you don't need to submit/write an answer. We will apply your learning method to different training sets and evaluate the performance of the learned model on hold-out test datasets

References

An interesting method for differentiating in (source) vs out (target) domains and using a domain classifier to encourage feature extraction to focus on feature extraction of the source domain, discouraging the target domain. <https://jmlr.org/papers/volume17/15-239/15-239.pdf>