AN2DL - First/Second Homework Report
Team Name

Name1 Surname1, Name2 Surname2, Name3 Surname3, Name4 Surname4

Codabench Nickname1, Codabench Nickname2, Codabench Nickname3, Codabench Nickname4

Matricola1, Matricola2, Matricola3, Matricola4

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Note: The following sections represent a suggested structure. Feel free to adapt them to better suit your specific project needs.

1 Introduction

In this section, you should present your project's context and objectives. You might want to:

- Define the problem (*you may use italics to highlight definitions*)
- State your goals (**emphasise key points with bold**)
- Outline your approach

For instance, you might write: "This project focuses on *image classification* using **deep learning** techniques."

2 Problem Analysis

Here you can discuss your initial analysis of the problem. Consider including:

1. Dataset characteristics
2. Main challenges
3. Initial assumptions

If you need to reference papers, use the citation command: Recent work [1] suggests..."

3 Method

This section should detail your approach. You can use equations to explain your methodology. For example, a simple model representation:

$$f(x) = \text{softmax}(Wx + b) \tag{1}$$

Or a more complex loss function:

$$\mathcal{L} = -\frac{1}{N}\sum_{i=1}^{N} y_i \log(\hat{y}_i) \tag{2}$$

Reference these equations in your text, like:"As shown in equation 1..."

4 Experiments

For your experiments, you might want to present your results in tables. Here's an example of a wide table comparing different models:

For more specific measurements, you might use a narrower table:

Table 1: An example of wide table. Best results are highlighted in **bold**.

Model	Accuracy	Precision	Recall	ROC AUC
VGG18	72.20 ± 3.06	94.95 ± 0.52	86.95 ± 0.55	80.16 ± 0.81
Custom Model	27.71 ± 3.19	75.70 ± 1.07	55.75 ± 2.16	36.60 ± 1.26
ResNet18	**89.24 ± 2.38**	**95.54 ± 0.49**	**93.43 ± 1.30**	**91.68 ± 0.71**

Table 2: An example of table. Best results may be highlighted in **bold**.

Time [μs]	Distance [mm]
22±4	8±1
17±3	7±1
15±3	6±1
13±2	5±1
10±2	4±1
8±2	3±1
5±1	2±1
37±1	1±1

You can also include figures to visualise your results:

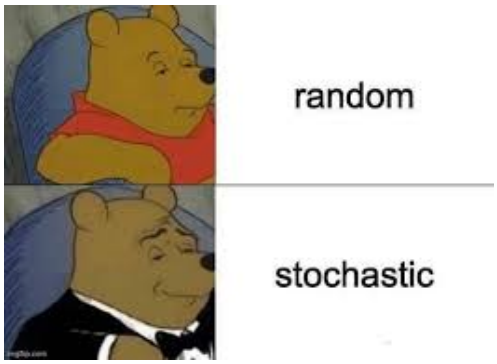

Figure 1: Example figure showing [describe what the figure shows]

Reference figures using like:"As shown in Figure 1..."

5 Results

Present your main findings here. You might want to:

- Compare your results with baselines
- Highlight key achievements using **bold text**
- Explain any unexpected outcomes

6 Discussion

In this section, analyse your results critically. Consider:

- Strengths and weaknesses
- Limitations and assumptions

7 Conclusions

Summarise your work and discuss potential future directions. This is where you can:

- Restate main contributions
- Suggest improvements
- Propose future work

8 Logbooks

Here we can write our personal logbooks.

8.1 Matteo

- Google Drive folder
- LaTeX repository
- A bit of data inspection and noised aumentation

8.2 Lorenzo

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8.3 Michele

-

8.4 Elena

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References

[1] Y. LeCun, Y. Bengio, and G. Hinton. Deep learning. *nature*, 521(7553):436–444, 2015.