Kaggle Project

End of competition: January 4, 2026 at 11:59 PM
Report submission deadline: January 11, 2026 at 11:59 PM (on Moodle)

Details about the Kaggle Competition:

- Teams must consist of 3 or 4 students.
- You may submit only 5 submissions per day. This means that if you want to test multiple models, you will necessarily need to work over several days, not just on the last day.
- Each team member is expected to make several submissions. Otherwise, you may receive penalty points (see the “Penalty Points” section below).
- You must select two of your best submissions. At the end of the competition, you will see the private leaderboard score associated with these two submissions. It is possible that your second-best public submission performs better on the private test set (either due to randomness or because that model generalises better).
- You can earn bonus points if :
    - You collaborate via Git (and share the remote repository with me by adding me to your team)
    - Tou provide a notebook that runs one of your two best models end-to-end.
    - If you provide a notebook or a Git repository, you can also earn an additional bonus point for clean, well-structured, and well-commented code (see the “Bonus Points” section below).

Details about the Report:

- The report must be 3 to 6 pages long and written in English.
- You must submit it as a PDF only.
- The tone does not need to be as formal as a scientific paper. Instead, think of it as a technical note you would hand to a manager, or documentation for teammates. The goal is to explain your thought process, your organisation, and clearly describe your main model.
- The report must follow a question-and-answer format. The questions you must answer are listed below. They are meant to guide you while you work.
- You must:
    - include all questions by rewriting them in the report,
    - not rephrase the questions,
    - not merge questions together.
- You may, and in some cases should, include images in the report. If an image takes up a full page, that page does not count toward the page limit.
- You may earn a bonus point if your report is well written and free of errors (see bonus points below).

Questions (/17):

1. On which platform/software did you implement your model? Did all team members use the same setup? If not, specify what each person used. What motivated these choices? /1
2. How did you divide the work? How did you collaborate while coding? /1
3. Include a full screenshot of the Kaggle Submission page. /1
4. How did you handle loading the data into RAM? /1
5. How did you preprocess your data before training? What motivated these choices? /1
6. Were there any preprocessing steps or data-handling methods you tried that produced worse results than expected? Do you have an explanation for this? /1
7. Which models and hyperparameters did you test? What motivated these choices (aside from validation score) ? (I am not expecting a description of how each model works, unless it is a model we did not cover in class.) /2
8. How did you evaluate your models outside of Kaggle? Did you use a validation scheme, and if so, which one? /1
9. Did you set random seeds to ensure reproducibility? Were the results stable? /0,5
10. Which model achieved your best results? Describe its functioning, architecture, and the hyperparameters used during training. /2
11. What were the training times for your models (rougly) ? Did you need to adjust model size or hyperparameters for time or GPU budget reasons? /0,5
12. Provide the accuracy of your model for each class on your training dataset. Are there classes with significantly different performance levels? How do you explain this? /1
13. Show three examples of training images that were misclassified by your model. What do you think about these errors? /1
14. If you had one full day to further improve your model, what would you prioritise and why? /1
15. Which ethical considerations arise if this model were to be deployed in a real-world setting? /1
16. Use of generative AI: one reply per team member : /1
    1. Did you use any generative AI tools such as ChatGPT, Gemini, DeepSeek, Copilot ?
    2. If yes, which ones ?
    3. For what purpose (code generation, code debugging, writing, translation, idea generation, explaining results, clarifying course material, etc.)?
    4. Do you believe you could have achieved the same results without generative AI tools?

(For question 16 : Each team member gets the point if they answer, no matter what their answer is. I do not penalise strong or unreasonable use of gen AI, nor do I penalise if you didn't use any AI tool.)

Other points (/3) : (individual for each member)

- Made one submission (either sandbox or LeNet) on the test Kaggle competition (the MNIST dataset one). /1
- Posted their name here : https://www.kaggle.com/competitions/classifying-handwritten-digits/discussion/651388 /1
- Posted their name here : https://www.kaggle.com/competitions/2-computer-vision-2025-b-sc-aidams-final-proj/discussion/654368 /1

Bonus and Penalty Points:

Bonus Points (for everybody in the team) :
+1 Notebook that reproduces the results of your best submission (Colab or Kaggle). It must run fully without any manual intervention (include pip install commands if needed, and handle data import within the notebook).

+1 Git collaboration (add louise-davy as a collaborator). Only students who actually made commits will receive the bonus.

+1 Clean and well-structured code (in the notebook and/or git repository).

+1 Clear, well-written, error-free report.

+1 The final submission is part of the top 3.

Penalty Points:
-5 (individual mark) for the people who cannot demonstrate meaningful contribution to the project (e.g., no commits on Git, no Kaggle submissions, complaints from teammates, etc.)

-5 for everybody in the team if report not submitted as a PDF file.