Project Title

First student’s name (Team leader); Second student’s name; Last student’s name

Advisor: Lecturer’s name

**Abstract:** Only one paragraph for abstract (around 300 words). This section should summary the motivation for your project: what is the main methodology you used, and the results obtained, and global conclusion of project. Students don’t provide here any tables, citations, authorships. The abstract should paraphrase and summarize rather than quote from the paper.

**Keywords:** You should provide at least 4 keywords related to the project such as: Keyword 1; Keyword 2; Keyword 3; Keyword 4….

**Students must discuss with your advisor for the potential table of contents. The final report is depended on the specific topics, and it can be changed (if necessary).**

# 5. System Design & Implementation (1-2 pages) (Options)

# In this section, students present the main idea of system design. For example, in the backend, the Keras (https://keras.io) Python package, a wrapper for deep learning libraries such as TensorFlow and Theano, for model building, training …

Students focus on front-end technologies for designing User Interface for some tasks related to Data Crawling, Labeling. At least 1 figure is presented in this section. All sources must be cited.

Text, letter

Description automatically generated

Figure 3. Example of image annotation (for text recognition task).

# 6. Results and Discussion (2-3 pages)

You should present what parameters and value used to obtain the experimental results.

The specific metrics for evaluation are listed with equation, for examples:

* if you solve a classification/recognition, you need to present confusion matrix and related performance such as accuracy, F1, precision.
* for detection problem, you need to illustrate IoU, AP
* for image quality, using PSNR, SSIM metrics
* for key point or landmark detection, using OKS, PDJ
* report the mean with standard error or standard deviation from statistical analysis.

Students should present in detail how to compute the specific metrics. You can present the performance by using tables or plots for both quantitative and qualitative results. Include visualizations of results, heatmaps, examples of where your methods/algorithms failed or reach the limit. Try to explain and discuss why they failed or achieve the best results. You must discuss and mention all the figures/tables in your main text throughout this section. Your plots should include legends, axis labels, with good image resolution for printing (see an example in Figure 3 and 4). All tables and figures must be in order and number.

Chart, histogram

Description automatically generated

Figure 4. Example of performance (for classification task).

Chart, bar chart

Description automatically generated

Figure 5. Example of performance (for text recognition task).

# 7. Conclusion and Perspectives (0.5 page)

Summarize your report in one or two paragraphs. Which methods or algorithms achieves the best performance? Why do you think that some algorithms worked better than others? Is there any limitation and drawback of your works? If you had more time and more computational resources, or more team members, what aspects you should propose and explore to improve the performance?

**Some Remarks:**

- Do not repeat results

- Do not include irrelevant conclusions, different from the topic.

**Acknowledgement**

The final report may include an acknowledgment section (if necessary).

# References

This section should include citations for: (1) Any papers mentioned in the related work section. (2) Papers describing algorithms that you used which were not covered in class. (3) Code or libraries you downloaded and used. This includes libraries such as scikit-learn, Matlab toolboxes, Tensorflow, etc.

Note that the format for journals, books and other publications are different. Acceptable formats include MLA, APA, IEEE. References at the end should be arranged in the order in which they appear in the text.

1. Hastomo, W., 2020. Gesture Recognition For Pencak Silat Tapak Suci Real-Time Animation. Jurnal Ilmu Komputer dan Informasi, 13(2), pp.77-87.
2. Ijeh, A.C. and Masri, A.N.A., 2021. Using Gesture Recognition to Prevent Drowning. Crime Science and Digital Forensics: A Holistic View, p.20.
3. Wattanakitrungroj, N., Pinpo, N. and Tongman, S., 2021, June. Sentiment Polarity Classification using Minimal Feature Vectors and Machine Learning Algorithms. In The 12th International Conference on Advances in Information Technology (pp. 1-8).
4. Saleem, F., Ullah, Z., Fakieh, B. and Kateb, F., 2021. Intelligent Decision Support System for Predicting Student’s E-Learning Performance Using Ensemble Machine Learning. Mathematics, 9(17), p.2078.
5. Kim, M.K., 2020. Comparison of Off-the-Shelf DCNN Models for Extracting Bark Feature and Tree Species Recognition Using Multi-layer Perceptron. Journal of Korea Multimedia Society, 23(9), pp.1155-1163.
6. Ren Donghao, Amershi Saleema, Lee Bongshin, Suh Jina, Williams Jason D. Squares: Supporting Interactive Performance Analysis for Multiclass Classifiers. IEEE Transactions on Visualization and Computer Graphics. 2017;23(1):61–70. 2017.
7. Kovalchuk SV, Knyazkov KV, Syomov II, Yakovlev AN, Boukhanovsky AV. Personalized clinical decision support with complex hospital-level modelling. Procedia Comput Sci. 2015;66:392–401.

# Appendix A. Project Plan management

Here is an example of Project plan, you can modify and add relevant information according to your project.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Task Name | Priority | Owner | Start date | End date | Status | Issues |
| Find documents | High | Student A | …… | …… | In progress | …… |
| Review related papers | Medium | Student A | …… | …… |  |  |
| Review and analyze public dataset | Low | Student B | …… | …… |  | Not found appropriate dataset |
| Collect and label data | High | Student B | …… | …… | …… | …… |
| Evaluate potential method | Medium | Student B | …… | …… | …… | …… |
| Experiment | Low |  | …… | …… | …… | …… |
| Compare results | Medium | Student B | …… | …… | Finished | Bad performance |
| Writing appendix | Low | Student B | …… | …… | Pending | …… |
| Future works | High | …… | …… | …… | …… | …… |

# Appendix B. Source code & Data

Students put here link of source code and dataset (Google drive, One drive….)

|  |  |  |
| --- | --- | --- |
| Item | Link | Description |
| Data | Link (Google drive, One drive….) | …………….. |
| Source Code | Link (Google drive, One drive….) | …………….. |
|  |  | …………….. |