CS 6384 Computer Vision Project Presentation and Final Report

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1 Presentation

The project presentations will be on 5/2 and 5/4. The assignments of the groups are

- 5/2, Monday, Groups: 1, 2, 3, 4, 6, 8, 9, 11, 16
- 5/4, Wednesday, Groups: 10, 12, 13, 14, 15, 17, 18, 19, 20

The list of projects:

- Group 1: Mobile SLAM Navigation Compilation
- Group 2: Audio goal navigation for indoor robots
- Group 3: Interacting with Virtual Environment through Hand Pose Estimation
- Group 4: An Application of Semantic Segmentation on Car Background Detection
- Group 6: Pose Based Form Correction Trainer
- Group 8: Parking Spot Detection - OpenCV (Object Detection Methods)
- Group 9: OIV SNet: On-device Identity Verification using Siamese Neural Network with Triplet Loss
- Group 10: Visual Question Answering: Combining Computer Vision and Natural Language Processing
- Group 11: Few-shot object classification in clutter scenes
- Group 12: Scene Description
- Group 13: Application of Convolutional Neural Network Architectures for Artist Attestation on Smartphone Cameras
- Group 14: Object Detection with DETR
- Group 15: Comparative Analysis of CNNs, Deep Residual and Contrastive Learning based Blood Cell Image Classification

- Group 16: Solving Sudoku using Object Character Recognition
- Group 17: Referring Expression Comprehension with audio query
- Group 18: Image Segmentation for Platypuses in Nature
- Group 19: Image Grounding using Transformers
- Group 20: Depth Map Super-Resolution using Swin Transformer

Each group has 8 minutes for the presentation and questions. Please use slides to describe your project, and show a demo of the project if you have one.

Evaluation criteria: The grading will be based on the overall quality of the presentation in terms of content, clarity, and question answering.

2 Final Report

The project final report should be prepared using the CVPR latex template. A useful online LaTex tool is Overleaf `https://www.overleaf.com/`. We have the CVPR latex template accessible here via overleaf: `https://www.overleaf.com/read/gpjssbtrrpqm`. You can download a copy of the template or make a copy in overleaf for your own project, and then edit it.

In this project final report, please describe the following items according to your project:

- **Title**. The title of your project.
- **Team Members**. List the names of the team members.
- **Abstract**. Give an overview of the project.
- **Introduction**. Describe the motivation of the project, i.e., why do you want to work on this problem. Then describe an overview of the framework/method/system.
- **Related Work**. Discuss the related work of your project.
- **Method**. Describe your solution for the project. For example, describe each component of the framework in details. Try to use figures to illustrate the method instead of only using text. "A picture is worth a thousand words".
- **Experiments**. In this section, you can first describe the datasets and evaluation metrics. Then describe what experiments you have done for the project by adding experimental results to the report. You can use figures and plots to show these results.
- **Conclusion**. Describe the take-home messages of the project and conclude the report.
- **References**. Cite related works in the report.

Evaluation criteria: The grading will be based on the overall quality of the report in terms of writing, content and clarity.

Minimum page requirement: 4 pages. The report should be at least 4 pages with the CVPR format (excluding references, i.e., without references, the content should be at least 4 pages). You can go beyond 4 pages, but make sure it is less than 6 pages (excluding references).

An example CVPR paper: you can check the structure of the following paper for reference `https://yuxng.github.io/zhu_cvpr21.pdf`.

3 Project Submission

Please submit the following items to eLearning. You can zip all the files.

- (Required) Final report in pdf format
- (Required) Presentation slides in pdf format
- (Required) Source code of your project
- (Optional) A demo video in mp4 format