YZV 416E - Computer Vision
2024/2025 Spring
Term Project (40%)

Assoc. Prof. Dr. Cihan Topal (cihantopal@itu.edu.tr)
Res. Asst. Şeyma Takır (takir21@itu.edu.tr)
Res. Asst. Doğukan Arslan (arslan.dogukan@itu.edu.tr)
Res. Asst. Abdullah Kavaklı (kavakli23@itu.edu.tr)
Res. Asst. Batuhan Cengiz (cengiz16@itu.edu.tr)

1 Introduction

For this project, your task is to **devise and implement** a solution for a **computer vision problem** that captivates your interest. While opting for a problem linked to your research area or dissertation research is permissible, it's crucial to outline an attainable short-term objective and the anticipated outcome for the class project. This project presents an ideal opportunity to explore innovative techniques that you may not have previously considered or had the chance to utilize.
You have the flexibility to choose from various approaches:

- Address a **real-life problem** and develop a vision-based solution.
- Investigate a well-defined **research problem** and try to develop novel techniques surpassing current methods.
- Explore a **niche problem** and apply a vision-based solution to address the issue.

By completing this project, you'll not only contribute to the advancement of computer vision but also enhance your skills and understanding of cutting-edge techniques in the field.
You will work in **project groups** of **three people**. A teaching assistant will be assigned to each group as a **mentor**. You can have assistance from your mentors by scheduling **biweekly meetings** for this project.

2 Project Proposal

Deadline: 13/03/2025
You should submit a **1 page project proposal** to define the problem you want to work and explain your plan for the semester. A template with the proper instruction will be shared with you through Ninova.

3 Progress Report

Deadline: 17/04/2025
Progress report should be **two pages** in IEEE format. Report should clearly address the work you have done so far and your plan for the rest of the semester. You should include information regarding previous works in the literature (Related Work). Performed experiments and achieved

outcomes should be explained. You should include the challenges you encountered and possible solutions to overcome those challenges.

4 Presentation

Deadline: 29/05/2025
At the end of the semester, each group must present their term project with a **7 minutes (firm) presentation** in class. The **time limit** is **absolute** and **no time extension** will be allowed. You are encouraged to **rehearse beforehand**.

5 Final Report

Deadline: 01/06/2025
Final report should be prepared in a given format (IEEE, 2-column format). The report should be **four pages**. You should follow similar outline in your report:

- **Abstract**: A short summary of the whole work including motivation, problem, achieved results and conclusion.
- **Introduction**: Introduction to problem and brief explanation of your solution.
- **Related Work**: Brief overview of related works from the literature with appropriate references.
- **Method**: Explanation of the methodology (solution) used in your project.
- **Results**: Presentation and analysis of experimental results.
- **Conclusion**: Summarize your findings and conclusions.

6 Evaluation

You must complete **all four steps** (proposal, progress report, presentation, final report) **to succeed** in this assignment. The absence of **any item** from this list will result in **failure**. Note that, the term project will account for 40% of your overall grade.

7 Resources

Kaggle Notebooks, Google Colab or TPUs in Google Cloud can be used for hardware support. Keep in mind that those resources are memory-limited. Ensure that resources meet the requirements of your solution.

8 General Rules

- **Cheating** is highly discouraged. Also **disciplinary actions** will be taken. **Proposed project** should be **unique** to this **class**.
- Upload your solutions through **Ninova**. Project documents sent via e-mail and late submissions **will not be accepted**.
- You have to use the provided **Latex template** for your reports. Reports with **incorrect templates** will **not be evaluated**.
- You can use **message pane** for questions.