Computer Vision Module: Final Project Submission & Presentation Guidelines

Overview

Weighting: This Final Project accounts for **50%** of your total module mark.

The project assessment is divided into three phases. You will submit your code and written report **one week before (Dec 8-12, 2025)** the final exam week. The exam day is reserved strictly for a short oral defense of your work.

Grading Criteria Breakdown

Component	Weight	Deadline	Key Focus
1. Development Milestones	**30%**	Semester-long	Consistency, meeting iterative goals, handling blockers.
2. Code & Report Submission	**50%**	**Dec 8-12, 2025), on lecture and labs**	**Code (30%):** Reproducibility, live demo. **Report (20%):** Scientific analysis, failure cases.
3. Final Presentation	**20%**	**Exam Day**	Clarity of summary, quality of slides, answering questions (Defense).

Detailed Requirements

1. Development Milestones (30%)

Assessment throughout the semester.

- **Goal Completion:** Did the team stick to the timeline proposed in the project proposal?
- **Iterative Progress:** Evidence of steady work rather than a "last-minute crunch."
- **Problem Solving:** How the team addressed data scarcity, overfitting, or hardware limitations during the development phase.

2. Code & Report Submission (50%)

Deadline: During Scheduled Lecture/Labs (Dec 8-12)
This phase contains the bulk of your technical and scientific grade. You must submit your code and your PDF Report. You will meet with the professor for a "Technical Checkout" to verify that the code runs.

Part A: Technical Checkout (30%)

- **Live Inference:** You must run your model live on a test set provided by you or the professor to prove functionality.
- **Reproducibility:** The repository must be clean (working `requirements.txt`, organized scripts).
- **Visual Output:** Effective visualization of results (bounding boxes, masks, etc.).

Part B: Final Report PDF (20%)

- **Motivation & Architecture:** Clear problem statement and justification of design choices (e.g., loss functions, model selection).
- **Baselines:** Comparison against standard methods (e.g., ResNet, Canny Edge).
- **Quantitative Evaluation:** Metric tables (Accuracy, mAP, F1-Score).
- **Qualitative Analysis (Crucial): Failure Cases.** Show images where the model failed and explain *why*. This demonstrates deep understanding.

3. Final Presentation (20%) – *The "Oral Defense"*

Deadline: Exam Day
Since we have already graded your code and read your detailed report, this session is purely about your ability to **communicate** and **defend** your work.

- **Slides:** High-quality visuals, minimal text. Synthesize your report into a narrative.
- **Clarity:** Can you explain complex architectures simply?
- **Q&A Defense:** The ability to answer questions about your methodology (e.g., "Why did you use that specific augmentation?" or "How does this layer affect the receptive field?").

Submission Logistics

Phase 1: Milestones

- **Format:** Assessment throughout semester lectures/labs.

Phase 2: Project Submission (Code + Report)

- **Date:** Conducted throughout the final classes (1 Lecture and 8 Labs).
- **Requirement:**
  1. **GitHub Link** submitted 24 hours before your slot.
  2. **Final Report PDF** submitted to LMS or via university email (i.atadjanov@centralasian.uz) 24 hours before your slot.
- **Activity:** In-class technical verification (15 mins/team).

Phase 3: Final Presentation

- **Date:** Dec, 18, 2025
- **Format:** 10 minutes TOTAL per team (7 min presentation + 3 min Q&A).
- **Requirement:** Slides PDF/PPTX uploaded to LMS or sent via university email.

Tips for Success

- **Report vs. Slides:** Your Report should be detailed and rigorous. Your Slides should be visual and summarized. Do not copy-paste text from Report to Slides.
- **Know Your Failures:** In the Q&A, we will ask about where your model breaks. Be honest about it.
- **Demo Video:** Bring a backup video of your demo to the presentation just in case, even though we already checked the code.

Appendix: Recommended Final Report Structure

Please organize your PDF report using the following structure. This aligns directly with the grading criteria.

1. Title & Abstract

- Project Title and Team Members.
- **Abstract:** A 150-word summary of the problem, method, and key result.

2. Introduction & Motivation

- What problem are you solving?
- Why is it difficult? (e.g., occlusion, lighting, real-time constraints).
- Dataset details (Source, class balance, size).

3. Methodology (Architecture)

- **Diagram:** A high-level diagram of your pipeline.
- **Design Choices:** Justify why you chose specific models/losses. (e.g., *"We used Focal Loss to handle class imbalance..."*)

4. Experiments & Quantitative Results

- **Baselines:** Define what you compared against.
- **Metrics Table:** Compare your method vs. Baseline using standard metrics (IoU, Accuracy, etc.).
- **Training Curves:** Loss/Accuracy plots (Train vs Validation).

5. Discussion & Failure Analysis (Critical Section)

- **Success Cases:** Display 2-3 images where the model worked perfectly.
- **Failure Cases:** Display 3-5 images where the model failed.
- **Analysis:** Explain **WHY** it failed. (e.g., *"The model confused the shadow for an object because the training set lacked low-light examples..."*)

6. Conclusion & Future Work

- Summary of findings.
- What would you improve with more time or compute power?

7. References