# 2025-2 Computer Vision

# Syllabus

Sung Soo Hwang

# Class operation

- Tuesday
  - Group Activity
    - I will give you questions
    - You will discuss in groups
    - I will provide the answers after the discussion
    - Using a computer/tablet/smart phone is not allowed
- Friday
  - Group activity
    - You will discuss in groups the answers for exercises/assignment
    - Each student should submit answers for exercises and assignments
      - By 11:00pm on Next Tuesday
  - Students are required to watch online lectures before they attend group activity
    - This will count as attendance

# Time schedule(1/2)

| weeks | |
|---|---|
| 1<br>(8/31~) | Introduction, Basics of Digital Image Video, Assignment 1 |
| 2<br>(9/7~) | Intensity transformation, Spatial filtering, Assignment 2 |
| 3<br>(9/14~) | Histogram equalization, Assignment 3 |
| 4<br>(9/21~) | Basics of color, Quiz1, Project 1 |
| 5<br>(9/28~) | Edge detection, Line detection, Assignment 4<br>Friday: No class |
| 6<br>(10/5~) | Image segmentation, Assignment 5<br>Tuesday: Online class, Friday: No class |
| 7<br>(10/12~) | Video segmentation, Project 2 |
| 8<br>(10/19~) | Mid-term exam<br>Tuesday: No class |

# Time schedule(2/2)

| weeks | |
|---|---|
| 9 (10/20~) | Image Feature, Matching, Assignment 6<br>Tuesday: Online class |
| 10 (10/27~) | Detection, Tracking, Assignment 7 |
| 11 (11/3~) | Object detection using Deep learning, Project 3<br>Friday: No class |
| 12 (11/10~) | Understanding of a camera, Quiz 2, Assignment 8 |
| 13 (11/17~) | 2D Projective transformation, Assignment 9 |
| 14 (11/24~) | Review session |
| 15 (12/1~) | Project 4 presentation |
| 16 (12/8~) | Final exam |

# Grading policy

- Attendance(10%)
  - -1 pt per absence
  - F when more than 7 absence (8,9,10…)

- Assignment(25%)
  - 10 assignments
  - Zero points for delay

- Quiz(10%)
  - 2 quizzes

# Grading policy

- Project(25%)
  - 4 projects(Project 1-3: 5pts, Project 4: 10pts)
  - 4th project is a team project
  - Zero points for delay

- Mid-term exam(10%)

- Final exam (20%)
  - Two final exams, 10pts each

# Environment

- We will use openCV
  - An open source specialized for image processing and computer vision
  - openCV 1.0(C), openCV 2.0~(C++)
  - Use openCV 3.4.2(for windows), 4.x(for Mac)
    - Code for Mac can be a little bit different
    - Use C++ version
    - You may use either C++ or python for project 4

# Grading policy

- You will get more than A0 if
  - You got more than 85 points in total

- You will get more than B0 if
  - You got more than 75 points in total

- Only I decide who will get A+ or A0, and B+ or B0
- Students sitting next to you are your allies and assets

# Honor code & Office hour

- The following actions are considered as cheating
  - Copying more than one line from other students' code, web sites or chatGPT
  - You are allowed to use the functions and codes that are provided in the lecture notes only

- Zero tolerance on cheating
  - If you get caught, you will get F
  - However, if you confess it, you will get a second chance

- Office hour
  - Tuesday, Thursday 14:00~15:00
  - Important: Reservation is necessary
  - You can visit me anytime once you have a reservation
    - Either online or offline