

Intro to Visual Media Programming

서용덕 (SEO, Yongduek)

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Global Korean Studies

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First Contact

What will be covered:

1. Image/Video Processing Algorithms in Python 3 or C/C++
2. Small size coding assignments almost every week
3. A few coding project during the semester
4. Some mathematics: linear algebra & calculus
5. No teams
6. Final grading is calculated by the sum of all the points.
 - a. PDF submission
7. No copy & paste! : if found, F is expected.

Programming Environment

- language: Python 3.x or C/C++
 - Install python 3.7 or 3.8; 3.9 and 3.10 was not tested.
 - MINGW64 g++ compiler with vscode will be sufficient in Windows 10/11
 - Visual Studio C++
 - Installing XCode in Mac OS X installs C/C++ compilers.
- editor:
 - visual studio code, recommended & will be used during the class
 - jupyter (jupyterlab) may be used to prepare assignments.
- image & video
 - numpy, cv2 (opencv-python)
 - opencv from www.opencv.org
- 2D game making
 - pygame: mostly not covered in the class.
- too slow computer?
 - use computer rooms in Sogang: Ga110, X423. Remote access is also possible.
 - use notebook service in kaggle.com & google colab
 - your own computers should be OK no matter how old they are. If it is slow then your level of coding is the main cause.

Mathematics

Linear algebra:

- basic matrix & vector operations
- inner product & orthogonal projection
- coordinate system and basis change.

Grading

- Two exams
- at least two projects (image/video & 2D game)
- several assignments
- class participation, general etiquette

Q&A

- Online/Zoom class: Sept. 9 (next thursday)
- Bring your laptop computer (if possible) & do experiment during the class.