

CS324 Project: Demo AI on Chips

In this project, we will provide a device (Jetson Nano of NVIDIA, <https://developer.nvidia.cn/embedded/jetson-developer-kits>), which is the platform for AI at the Edge. The main task is to choose a project topic, implement the algorithm, run and demonstrate it in **real time** (the response of single task could be in ns/ μ s/ms, but no more than 5s) on Jetson Nano. Here are some topics you can choose:

- (1) Emotional face-guided face generation based on Style-GAN;
- (2) Pose Estimation;
- (3) Object Detection;
- (4) Behavior Recognition;
- (5) Face Recognition;
- (6) Semantic Segmentation;

Also, you can choose the computer vision task or other interactive ones you are interested in but not listed above, please confirm with the teaching assistant if needed.

In this part, all of you are required to work in groups of 3 or 4 people. Please fill in the link below to group: <https://docs.qq.com/sheet/DZU5QT0x5VHNTVFhR>

Note:

We will have a defense before the final exam. Each group needs to summarize the project, including the detailed process of project completion, real-time demonstration. Keep in mind that the presentation should include **detailed work and contribution ratio of each member**, which will be used as a scoring basis.

The break-down of presentation score:

- Presentation and real-time demonstration (70%);
- Report (20%);
- Code Re-implementation (10%);

Submission instructions

The submission will include:

- A written report describing what you did, the results and your analysis (please submit pdf file).
- Presentation file (ppt);
- Code for producing all results for all parts and tasks.
- Instructions on how to run the code (a jupyter notebook for running instructions will be fine).

Give the report file in pdf format and the ZIP file the name GroupID_jetson.zip, where you insert your group number. Only group leader submit this archive is ok. Please submit the archive through the Blackboard.

The deadline for this project is the 21st of December 2025 at 23:30 (Beijing Time). And the presentation will be held in 16th week.