

## CS324 Project: Demo AI on Chips

In this project, we will provide a device (Jetson Nano of NVIDIA, <https://developer.nvidia.com/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/  $\mu$ 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: [Tencent Files] GroupInfo\_project\_2024CS324  
<https://docs.qq.com/sheet/DYU9vclJhWmxxRGVu?tab=BB08J2>

### 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 5th of June 2024 at 23:30 (Beijing Time). And the presentation will be held in 16<sup>th</sup> week.**