SHANGHAITECH UNIVERSITY
School of Information Science and Technology
CS240: Algorithm Design and Analysis Fall 2021 Course Project Description
Released: 24th, Nov 2021; Due: 26th, Dec 2021

Students are free to establish their team with up to 3 team members in total. Each group needs to select one topic from academic journals or conferences (CCF-A or B: https://www.ccf.org.cn/Academic_Evaluation/By_category/) **(if it is in line with your research direction, that is the best**). The division of labor in your team must be clear. It is not allowed for one person in your group to handle everything while the rest do nothing. Everyone should be familiar with the selected topic. Please keep academic integrity. Unless explicitly noted, work turned in should reflect your own/independent capabilities!

1. **Please form your team and choose the topic before 8th, Dec using the following link:**
【腾讯文档】CS240 Algorithm Design and Analysis Fall 2021 Course Project Team Info
https://docs.qq.com/sheet/DWE5NREpWb2ZWeXJn

2. **The specific requirements are:**
   - **a)** The paper you choose should be **relevant to the course content.**
   - **b)** The algorithm examples in the textbook and slides **cannot be regarded** as your topic. You cannot just implement a Max-Flow/Min-Cut. It should be a problem from a **specific domain or field**. For example, the paper of "*Seam carving for content-aware image resizing*[C]//ACM Transactions on graphics (TOG). ACM, 2007, 26(3): 10" uses dynamic programming to tackle its problem in the field of image processing.
   - **c)** If your team is not sure about whether the paper is appropriate, you can send an email to the course instructor.
3. **The items to be submitted include:**
   - a) The original paper.
   - b) Program source code, focusing on the algorithm part of the paper.
   - c) Executable program or demo video.
   - d) Experimental report, which should include but not limited to:
     - i. Analysis of the correctness of the algorithm.
     - ii. Formal description of the algorithm (pseudo code)
     - iii. Complexity analysis of the algorithm.
     - iv. Program running environment and running result.
     - v. Consideration and improvement of the algorithm in the paper.
     - vi. The division of labor in your team.
4. If you use the open-source code provided by the paper, you should explicitly indicate your contribution and improvement.
5. Please submit your zipped file with a name "CS240 [Your group ID]_[group member name and ID]_[Topic]" to Gradescope by group basis **before 26th, Dec.** You should **prepare slides for presentation** and the dates for presentation will be announced in due course. If you have any questions, please feel free to contact me. Thanks.