Operations Research Applications
GitHub Writings
Due Date: June 25, 2021, 5pm

Please write GitHub page for an introduction of the assigned ORA topics in this assignment. Please **register** your own GitHub and just upload your "hyperlink" on **NTU COOL** by due.

Purpose: Make a tutorial of ORA learning. (1) The content will be put into POLab Course Programming & Coding Studio (https://github.com/po-lab) for future ORA students' recitation, practice, and learning reference. (2) Benefit your resume for job hunting after graduation (you can put the hyperlink in your resume).

Guideline: The assignment should follow the instruction: Student should read and google the "related references" (you may google the keywords to find more **comprehensive** reference) and then write a GitHub page as "tutorial" with examples for illustration. The GitHub should be written in "English" or "bilingual (English/Chinese)". You may refer to following linkages for reference.
-https://github.com/omerbsezer/Reinforcement_learning_tutorial_with_demo
-https://github.com/PO-LAB/Intelligent-Manufacturing-Systems/blob/master/GA_Application_Job_Shop_Problem/JSP.md

The report violating the project instruction is not accepted.

Topic: The assigned topics could be related to your final project.

GitHub writing is **individual** work. You need to discuss with your team members for building **different sub-topics**. For example, the team project is for Preventive Maintenance Scheduling: one can focus on deep reinforcement learning for finding the optimal policy and one can focus on robust optimization for addressing uncertain issues.

Content and Format of Presentation in GitHub

1 Background and Motivation: Describe the motivation, background, or problem definition (you may refer to the lecture notes in ORA course).

2 Methodology: (1) write a tutorial to introduce the topic/methodology theoretically and mathematically. (2) clarify the assumptions, limitations, applicable conditions, pros, or cons of the topic/methodology you introduced.

3 Example and Applications: give a small and understandable example for python illustration. The example could include dataset, define variables, introduce solver, set up experiments, clarify the numerical analysis result, or provide some managerial implications.

4 Comments: What's **your comment or insights** to the topic/methodologies you introduced?

5. Reference: Show all your reference cited in your GitHub page.

Please present your topics clearly and explicitly. The tutorial is for new learner. Don't try to cover all the ideas or materials you read from paper/reference/google. You need to learn how to organized critical and interesting ideas, and "share" them with your internet audience via an "**understandable**" way.

Finally, please remember this assignment partially replaces ORA final project (due to final project cancelled). We should take it serious to prepare the work for how to apply the ORA methodology to a variety of applications. **Your "innovative" comment is encouraged**. If your GitHub page refers to any external source, please "must" give an academic citation. Any "**plagiarism**" is not allowed. Show your best work and good luck.