# Efficient Algorithms: Final Project

CS485-004 Spring 2020

April 27, 2020

**Expectations:** The general expectation is that in addition to a well presented algorithmic problem, the project's author will add value to the project: a new example, visualization, implementation, new application, modification, interesting exercise, and other creative ideas. The quality of the project is measured by

- the clarity and quality of its presentation – it is project's educational value ;
- quality of work and creativity – it is the project's added value.

**Deliverables:**

A short report (3-5 pages) stating the problem, the context of applications, the algorithm (solution) illustrated with an interesting example or examples. The report should start with a brief abstract explaining the problem, the context in which the problem is essential and exciting, and should clearly state what is the added value – contributions of the report's author.

Use one of the following templates for your report:

`http://www.acm.org/publications/article-templates/proceedings-template.html`

- the official 2017 ACM Master Article Template (ACM Journal and Proceedings Format) is available as templates in the following formats: Word (the interim Word template), and (preferred) LaTeX2e Style.

**Presentations:**

The presenters should prepare slides for an in-class presentation on Thursday, April 30, 2020 that will have the format of a mini conference. Time allotted for each presentation is 15 minutes including questions.

A suggested structure for slides (PowerPoint or an equivalent presentation): (because of the fifteen minutes time nine slides are expected (a few more slides can be added, If needed .) The slides should be visual, detailed, and informative, and not just limited to bullet points. Additionally, a demo should be included as a part of the presentation.

**Slide 1:** Title, your name, course, date.

**Slide 2:** Abstract: General information about the problem, specific statements about your own added value.

**Slide 3:** Problem statement: establishing the problem.

**Slide 4:** Importance of the problem: context, applications, explaining what makes this problem worthwhile.

**Slide 5:** Examples illustrating the problem; the goal is to explain the problem with a simple and then elaborate example.

**Slide 6:** Solutions, algorithms

**Slide 7:** Complexity, properties, interesting facts about the problem and its solutions. Quote specific results.

**Slide 8:** Implementation/demo, added value to the project.

**Slide 9:** Conclusions/comments/future work.

The final report (a pdf file) should be submitted via the Canvas page to `Final Project`. The deadline on the day scheduled for final exam (we will not have the final exam).

However, materials for your Thursday, April 30, 2020 presentation: the Power Point (or similar) presentation and additional materials such as sources for programs, images, etc., is before class on Thursday.