# Research Assignment - Optional

MET CS 665 - Software Design and Patterns
Research Assignment
(4 points)

**Optional Assignment**
**Due one week before Final Exam.**

# 1 Application Description

In this optional research assignment, you will read one of the following research papers, summarize it in form of a presentation and send us your recorded presentation.

- Marco Zanoni, Francesca Arcelli Fontana, and Fabio Stella. 2015. `On applying machine learning techniques for design pattern detection`. J. Syst. Softw. 103, C (May 2015), 102-117. DOI=`http://dx.doi.org/10.1016/j.jss.2015.01.037`

- Jing Dong, Dushyant S. Lad, and Yajing Zhao. 2007. `DP-Miner: Design Pattern Discovery Using Matrix`. In Proceedings of the 14th Annual IEEE International Conference and Workshops on the Engineering of Computer-Based Systems (ECBS '07). IEEE Computer Society, Washington, DC, USA, 371-380. DOI: `https://doi.org/10.1109/ECBS.2007.33`

- Nija Shi and Ronald A. Olsson. 2006. `Reverse Engineering of Design Patterns from Java Source Code.` In Proceedings of the 21st IEEE/ACM International Conference on Automated Software Engineering (ASE '06). IEEE Computer Society, Washington, DC, USA, 123-134. DOI=`http://dx.doi.org/10.1109/ASE.2006.57`

You find the PDF files of the research paper online using University IP address.

# 2 Assignment Tasks

## 2.1 Task 1 : Read one of the research papers

Read at least two times the paper carefully and try to understand as much as you can. You may not understand all of the details but try to understand the main conceptual ideas.

## 2.2 Task 2 - Create a Presentation (2 points )

Summarize the most important parts of the paper in form of a brief presentation .

Your presentation should include maximum 15 slides, but it can also be less depending on paper subject.

**Describe in your presentation:**

- What is the main motivation of the paper?

- What is the main research problem that the paper is addressing?

- What is the proposed solution?

- Briefly summarize state-of-the-art (Related Work section of the paper)

- Presentation evaluation results of the paper?

- What are the major lessons learned from the paper?

- Describe what do you think about the paper and what are strong points and weaknesses of the paper.

## 2.3 Task 5 - Record your presentation and upload a MP4 file. (2 points )

Present your talk on your desktop and record it using a desktop recording software. You can also use your webcam and add it to your presentation.

You can use Kaltura CaptureSpace Desktop Recorder.

`http://www.bu.edu/tech/services/teaching/instructional-video/my-media/my-media-faqs/capturespace/`

**Note:** We recommend to use Kaltura and BU my-media system. However, if you have any issues with that and can not use it, you can record your presentation using ZOOM client application, generate a MP4 file, upload your MP4 file to some clouds (like google Drive, DropBox) and share with us the Link of your presenation.