

# Assignment 2.: What factors affect the number of views on YouTube?

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4<sup>th</sup> July, 2024

## 1 Description

The aim of this assignment is to analyze the factors influencing the number of views on YouTube using Principal Component Analysis (PCA) and Support Vector Machine (SVM). By identifying these factors, content creators can develop strategies to boost their viewership. The analysis will consider elements such as thumbnails, tags, descriptions, and posting times. Please, refer to Table I in the paper [1]. PCA will be utilized to pinpoint the most significant factors, while SVM will predict and classify their impact on viewership. In this assignment, you will analyze data from various YouTube channels to identify the factors that influence the number of views on YouTube videos.

## 2 Required Tasks

This is a group assignment that must be completed within 2 weeks and involves several tasks. Each member must participate cooperatively to ensure timely completion. To effectively manage this project, you need to assign specific roles to each member. Here is one example:

1. Project Lead: Oversees the project, ensures deadlines are met, and coordinates tasks.
2. Data Collector: Gathers data from various YouTube channels for analysis.
3. Data Analyst: Uses PCA and SVM to analyze the data and identify key factors affecting viewership.
4. Presenter: Prepares and delivers the presentation of the findings and progress.
5. Report Writer: Compiles the analysis and results into a comprehensive report.

Here are some additional details about this assignment.

1. Please specify each member's contribution in the progress presentation and the final report.
2. On July 4th, you will have some time to discuss how to carry out this assignment within 2 weeks.
3. On July 11th, you will present the current progress and contribution that each member has made.
4. On July 18th, you will submit the final report, and briefly present your finding during the class.
  - (a) Format the report as a 3-page academic paper, including your name, affiliation, abstract, introduction, etc.
  - (b) Please, submit the code you write as well.

## 3 Administrative

- Oral update on progress will take place on July 11, 2024, during the class.
- Final report due: 09:00, July 18, 2024
  - Submission to (suyong@ist.osaka-u.ac.jp)
  - Please submit both the codes and the report.
  - When you send me an email, please make sure to include the Group number and assignment number in the title, for example, "Group 2: Assignment 2".

## References

- [1] H. E. Jang, S. H. Kim, J. S. Jeon, and J. H. Oh, "Visual Attributes of Thumbnails in Predicting YouTube Brand Channel Views in the Marketing Digitalization Era," *IEEE Transactions on Computational Social Systems*, vol. 11, July 2023.