MATH513
Big Data and Social Network Visualization
Practical 2020–21

Practical Information

The Practical for MATH513 will take the form of a **presentation**.

Please read the following notes before working on the presentation:

- The deadline for this assignment is **Thursday, 10th December, 2020 at 10:00am**. You should submit your work through the MATH513 Big Data and Social Network Visualization DLE site. Your submission will be marked anonymously.
- **This is a group presentation. Please work in self-assigned groups of up to three people. The groups must be the same as those of the Coursework task.** Details of the Coursework task will be given to you soon.
- You should keep notes of all your meetings. Each member of the group will receive the same mark, unless any member chooses to make use of the Peer Assessment option. If you wish to make use of the Peer Assessment option, you will need to contact the Module Leader **Dr Luciana Dalla Valle** by **Wednesday, 9th December, 2020** to make an appointment.
- This presentation counts for 40% of your final mark on this module. Marks will be assigned according to the marking grid on page 4.
- Your presentation slides should be prepared using R/RStudio and associated packages, and reported using R Markdown.
- You are required to submit a video of your presentation, recorded via Zoom, for example. Zoom allows you to share your screen with your slides, and video-record your presentation. For more information about recording videos on Zoom, please click here.
- The presentation must not last more than **10 minutes**.
- The video presentation should be shared equally between the group members.
- Marked assessments will be returned within 20 working days of the submission date. In particular, you will get full feedback on your work by January 18th, 2021.

The relevant MATH513 Assessed Learning Outcomes (ALOs) for this assignment are:

ALO1 Critically select and use a broad range of techniques to perform Big Data manipulation and visualization;

ALO2 Perform exploratory analyses to extract information, insight and innovation from data.

ALO3 Collaborate with others to produce and document R code and to present its professional use for Big Data or Social Network Visualization.

You should keep these ALOs in mind when working on this presentation.

You are reminded of the University's Academic Regulations:

Academic offences occur when activity is undertaken which could confer an unfair advantage to any candidate(s) in assessment. The University recognises the following (including any attempt to carry out the actions described) as academic offences, regardless of intent:

a. Plagiarism, which is copying or paraphrasing of other people's work or ideas into a submitted assessment without full acknowledgement. More information on plagiarism is available here:
`https://www.plymouth.ac.uk/student-life/your-studies/essential-information/regulations/plagiarism`

b. Collusion, which is unauthorised collaboration of students (or others) in producing a submitted assessment. The offence of collusion occurs if a student copies any part of another student's work, or allows their own work to be copied. Collusion also occurs if other people contribute significantly to work that a student submits as their own.

The complete list of regulations can be found here:
`https://www.plymouth.ac.uk/student-life/your-studies/essential-information/regulations`

By submitting this practical assessment, all the group members confirm that they have understood the University's policy on plagiarism and collusion.

Your Task

You should select two contrasting business related topics from a social media source such as Twitter and perform on them full analyses that allow you to draw conclusions that may be of strategic business or marketing interest.

Your analyses should include a range of suitable data visualization techniques and appropriate sentiment analysis. You should also present the results of a clearly explained statistical test, together with brief justification of its use. You should explain whether a t-test would be appropriate, motivating your answer.

Your presentation should include a short critical discussion about what the business or businesses can learn from your analyses, together with some strategic suggestions. As an example, your discussion could include whether reactions to new products indicate that they have been well received.

You should prepare slides for your presentation using R Markdown. Please remember to build up your R Markdown presentation step by step, adding a small amount of code at a time. If you include in your R Markdown file a large amount of code, it probably will not work.

Your presentation should report your findings in a well structured and coherent way that is suitable for a general audience.

Your presentation should not exceed **twenty** slides, including references. This slide limit should not be considered as a target! Considerable credit will be given to concise, well designed and constructed presentations.

Note: The slides of your presentation should show the main output and major findings of your analysis. Please, do not include the code in your slides. You might include a limited part of your code, if this is essential for the presentation of specific results.

Submission

One member of your group needs to submit the following **three files** electronically using the online submission facility on the DLE by **Thursday, 10th December, 2020 at 10:00am**:

- An `mp4` file containing the video of your presentation, named
  `SocialMedia_First_Second_Third_Student_ID.mp4`
  where you substitute in the Student Identification Numbers of all group members.
  For example,
  `SocialMedia_11034023_12045043.mp4` for a group of two people.
- The `pdf` file containing your presentation slides, named in a similar way. For example,
  `SocialMedia_11034023_12045043.pdf`.
- The R Markdown file that produces your presentation, named in a similar way. For example,
  `SocialMedia_11034023_12045043.Rmd`

Please submit only **one** presentation per group.

Please ask if you do not clearly understand these submission instructions.

MATH513 Big Data and Social Network Visualization: Practical Marking Grid

Assessment Area	Maximum Mark	Awarded Mark	Feedback
Structure: clear introduction and conclusions, logical and coherent structure.	20		
Presentation: presentation style conveys interest, high quality images / text, even pace throughout, slides appearance.	30		
Understanding: deep understanding of content, including statistical test, well-explained analysis.	30		
Accuracy: technical correctness, including any analytic or statistical notation and R / R Markdown code.	20		
Total	100		