Assignment 3 — Flow visualization

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Number of credits: 15% of the module

Recommended hours: 10–15 hours

Submission deadline: 28 April, 2020 11:00am

By submitting this coursework, electronically and/or hardcopy, you state that you fully understand and are complying with the university's policy on Academic Integrity and Academic Misconduct. The policy can be found at `https://myuni.swansea.ac.uk/academic-life/academic-misconduct/`.

1   Motivation

You are given a research paper in the sub-field of flow visualization. Request a flow visualization research paper from me. Your task is to summarize the research paper in two pages (two sides of A4 paper). This assignment requires understanding the research paper given to you, extracting the important ideas and information, putting it into your own words, and condensing the research paper down to two pages.

Special Help Video Tutorials: There are two special video tutorials that explain more on how to carry out this assignment. They are on the-DataVis YouTube channel. One is called, "How to Read a Scientific Research Paper: Extracting the Essentials": `https://youtu.be/M5G1_9Gsnqg`. The second one is called, "On Close and DistantReading of Research Papers": `https://youtu.be/Q7ruNLUEMFg`. I recommend you watch the video tutorials before carrying out this assignment. The video tutorials explain how to summarize a research paper using only one page in some of the same categoriesused here. This assignment allows you to use two pages. This is easier than boiling it down to one page.

2   Format of the report

1. The title is the same as the paper your were assigned with the sub-title ": A Two Page Summary" appended.
2. The author is given as your name (with student number).
3. The current date is provided.

4. The font size is 11 or 12 point.

I highly recommend trying LaTeX to write your report. It has excellent support for including figures, typesetting math or code, and managing references. Plus the documents are easier to version control than word or Google docs. Overleaf is an online LaTeX editor that has a number of useful tutorials on LaTeX in general: `https://www.overleaf.com/learn/latex/Tutorials`. LaTeX can have Even if you decide you never want to use LaTeX again after this assignment, it's worth trying it out to explore new tools.

3 Content of the report

Your two page summary contains the following sections with the content indicated and answers to the corresponding questions.

3.1 Summary of Concept (or Problem Statement)

Your two page summary must contain a conceptual summary of the assigned paper. Which category of vector field visualization does this paper fall into? What are the authors trying to achieve at a conceptual level? What is the goal of the work?

3.2 Contributions

What is (are) the contribution(s) of the paper? Are they given explicitly or do they have to be extracted by the reader? In other words, what is the novelty? What do the authors present that is new (never been presented prior to the publication of this paper)?

3.3 Related Work Summary

What is the most important piece of related work relevant to the given paper? In other words, what previous research does this build on? The current work may build on more than one previous research paper.

3.4 Summary of Implementation

Your summary contains a brief description of theimplementation. You are not expected to under-stand all of the implementation detail of any paper (no one is) but the basic strategy is conveyed.

3.5 Summary of Results

The summary contains a brief description of the results. Are the performance times given? Are data set sizes provided? What are the characteristics of the data set tested?

3.6 Analysis and Discussion

What are the disadvantages of the proposed method? Does it have any flaws or shortcomings? Does it have any limitations? This information is more difficult to extract from the paper as the authors may being trying to hide it.

3.7 References

Your two page summary contains references and uses citations. It cites the paper you have been given.

You are encouraged to use images and/or figures in your summary.

4 Submission

You are required to submit your report via blackboard as a single PDF document before the deadline. No other format is acceptable.