CS 5371 Software Safety and Risk Analysis

Instructions for Individual Research Paper Report

Each student is required to submit an independently-written report of their term paper project. Students are welcomed to share literature related to their own paper and may work jointly to develop hypotheses, predictions and experimental design. Nonetheless, the organization and text of each report must be developed independently by student.

Normal rules concerning plagiarism apply. If you have any questions about this, best ask me first.

The written term paper must have the following structure and include all of the following elements:

THE PAPER SHOULD BE A MAXIMUM OF 5 PAGES (double-spaced; Times New Roman 12 font).

First (title) page must include:
1. Descriptive title
2. Author(s).
3. Abstract (in your own words. Do not copy-paste the paper’s original abstract
NOTE: MAXIMUM 200 WORDS)

Subsequent pages must include:
4. Introduction; briefly introduce the work its significance
5. Describe the paper’s main research area(s) (e.g. general software safety, fault tree analysis, V&V, software security…)
6. Related work. In here, you will attempt to answer the question “why the author(s) feel there’s a need for their work?” What are the problems the work is trying to address?
7. Paper hypotheses/goals/research question(s) and predictions (these can be incorporated into the introduction or presented below in a separate sub-heading)
8. Methodology and experimental design; what are the author(s) proposing as a solution and how will their solution solve the problem?
9. Significance of work
10. Literature Cited. In here you might stick to the citations in the paper, but you might also need to above and beyond to compare the presented work with what’s been done by other authors.
11. Overall rating of the paper: Please give the paper an overall rating from 0.0 to 4.0 as follows:

0.0 = Unacceptable
1.0 = Poor
2.0 = OK
3.0 = Good
4.0 = Outstanding

Clearly justify your rating
The following criteria will be used for grading the report. Your grade will depend on your ability to answer and address the points in the sections above as follows:

1. **Abstract**: Does your abstract reflect the title of the project and the aim and scope of the work? Does it contain essential information on rationale, hypothesis, methodology and significance? Is it written clearly? (10 points)

2. **Introduction**: Does your introduction start by introducing a significant question in the research community? Are statements supported by appropriate citations from published literature? Is the initial question refined through the introduction to statement of the objective of the study? (10 points)

3. **Main research area(s)**: does your evaluation of the main research area of the paper match that of the paper or are you providing a merely a general research area (e.g., software engineering vs. software testing vs. dynamic testing techniques vs. black-box testing…) (10 points)

4. **Related work**: does your report include a clear description of how the current work differ from other work in the area? Provide clear arguments to support your statement as to how this work differs from others. Clearly reference the related work you are using here. Are you citing papers in the body of the research papers here? Are the references cited here in the body of the text? Is consistent formatting used? (10 points)

5. **Hypotheses/goals/research question(s) and predictions**: Are the hypotheses presented clearly related to the objective of the study and are they logically connected to the ideas presented in the introduction? Are hypothesis stated correctly (i.e., do they provide an explanation for an observation)? Are predictions logically connected to the hypotheses? Are alternatives to the primary hypothesis acknowledged (where appropriate)? (15 points)

6. **Methodology and experimental design**: Is the explanation of the methodology clear (use figures if necessary)? Are the methods appropriate to test/answer the hypothesis/research goal proposed? Are essential methodological details included? Has the author considered potential confounding effects that might interfere with the ability to test the hypothesis? Are these recognized/addressed (where possible)? Most importantly, does your description of what the authors are trying to do as part of the methodology, and how they are doing it? (15 points)

7. **Significance, originality and creativity of work**: Does your report clearly present the significance (or lack-there-of) of the work? Do provide a clear justification for your evaluation? (10 points)

8. **Presentation and clarity**: Are the different sections of your report well-linked? Are the ideas presented clearly – and can they be followed from one section of the proposal to the next? Is the writing style clear (topic sentences introduce themes presented in each paragraph; concise language used; spelling and grammar acceptable)? Use of tense and active/passive voice is consistent? Note: Use the past tense to describe results found in previous studies. (10 points)

9. **Rating**: Is the justification of rating assigned clearly stated and supported? Does it match your evaluation as provided in the previous sections of the report? (10 points)