

ASSIGNMENT

COMP821 Information Security: S1, 2024

This assignment contributes 50% of the overall mark for COMP821

You must carry out research in [your chosen specific topic area] and write a research report on your chosen specific topic in the general area of

Artificial Intelligence and Information Security

RESEARCH REPORT GUIDELINES

I. General Instructions

Select a topic for your research report; you can use the list below, the lecture notes on the Artificial Intelligence (AI) topic, and other sources. Given the limited scope of assignment, your research will be much narrower compared to the overall theme of AI and Information Security but will contribute towards a comprehensive picture of how AI may be applied as a defence approach, or as an attack approach, what the associated risks for organizations and individuals are, and what strategies can be used to manage these risks .

Specific topics can belong to (but are not limited to) one of the areas below:

1. AI and security and privacy issues in communication systems
2. AI and effective threat analysis, attack detection and prediction
3. AI and defence mechanisms and theories of adversarial attacks
4. AI and adversarial modelling or adversarial deep learning
5. AI and software defined networking (software defined networks) security
6. AI and threats to critical infrastructure
7. Smart city security
8. AI-based methodologies for improving security and privacy in ad hoc and sensor networks
9. AI for IoT security:
10. AI for MANET security
11. AI and digital organizational management security
12. AI and healthcare practice security

13. AI and mass event security

14. Policies for the secure use of AI in the enterprise

This assignment is a research project; the expected deliverable is a research report. You are expected to research your topic carefully, and write formally.

- Your report must be typed, double spaced, standard A4 page size .
- The report will be checked using the **turnitin.com** service.
- The word count body of the text (excluding title page, end notes [if any], and the references section) must be in the range 2500 – 3000 words. Follow APA V.6 or V.7 as a referencing style and in presenting your report.
- Consider most current sources (i.e., published between 2019 and 2024). Normally, your references list will include at least 20 – 25 sources.

Research reports are due by **8 am on Wednesday on 12 June 2024** (or earlier). See your Canvas course for submission instructions. No extensions will be granted except through the SCA process.

As per the AUT recommendation, **late assignments**, without an approved extension, are subject to a deduction of 5% (one grade, e.g., from C+ to C) of the total marks available for each 24-hour period, or part thereof, up to a maximum of five days. Assignments over five days late (without an approved extension) will not normally be accepted or marked and students will receive a DNC (Did Not Complete) for that assessment.

II. Research Procedure and report write up

The research report, if properly planned and executed, will add to the value of the course by increasing the depth of your knowledge in one or more subject areas and by familiarising you with the use of the resources of the AUT library. When researching your topic, you are expected to go beyond course material used in class; simply rehashing material presented in class will not be satisfactory. See a synopsis of suggested sections to include, and a tentative word count, in the Appendix.

III. Marking Criteria and marks (max mark 50)

Reports will be graded based on the criteria below. For the marking schedule, see the Appendix.

(1) **Clarity and relevance:** A clear statement of the topic of the research and its purpose. Issues/problems identified and described. Factual accuracy. Topic suitability. Max marks: 10

(2) **Research quality:** Critical discussion and/or analysis of the relevant topic aspects/problems/solutions/ issues : Max marks: 25

(3) **Quality of source use:** sources are current, relevant, sufficiently diverse and used appropriately in the context of the report. Max marks:10

(4) **Quality of writing:** correct spelling and grammar, citing and referencing, style clarity, report organisation. Max marks: 5

IV Academic Integrity

This course regards most seriously any acts of dishonesty relating to assessment. Any such acts will result in appropriate adjustment of the assessment mark and may lead to disciplinary action. In this course cheating includes:

- Plagiarism
- Unauthorised collaboration
- Examination misconduct
- Theft of another student's work

Plagiarism means borrowing from the work of another without indicating by referencing (and by quotation marks where exact phrases are borrowed) that the ideas expressed are not one's own. Students may use the ideas and information of other authors, but this use must be acknowledged. It is not acceptable to submit an assignment which is simply paraphrasing of extracts from other authors: **the work submitted must include some intellectual contribution of the student.**

Unauthorized collaboration means joint effort between students or students and others, including software systems, in preparing material submitted for assessment, except where this has been approved by the course programme. Students are encouraged to discuss matters covered in classes, but when writing an assignment, report, essay, or other piece of assessed work, the recording and treatment of the data and the expression of ideas and argument must be the student's own work and in the student's own words.

Reminder: 'Unauthorised collaboration' includes collaboration with an AI tool to write up the research paper. Controls may be used to ensure academic integrity is upheld . For example, You may be asked to elaborate on your work in a oral question & answer session

- Keep your intermediate report drafts as evidence of work
- Discuss your work with your lecturer

APPENDIX

Marking Rubric

COMP821 "Information Security". Research Report. Weighting: 50%	S1, 2024
Marking Criteria	Maximum Mark
Clarity and relevance	10
Research quality	25
Quality of source use	10
Quality of writing	5
Max Total:	50
Max Final Mark in %	100
Rubric:	
Max score 10	
A score of 0-3 indicates that the criterion is not met	
A score of 4-8 indicates that the criterion is partially met	
If the criterion is met, a score 9-10 may be allocated	
Max score 25	
A score of 0-12 indicates that the criterion is not met	
A score of 13-19 indicates that the criterion is partially met	
If the criterion is met, a score of 20-25 may be allocated	
Max score 5	
A score of 0-2 indicates that the criterion is not met	
A score of 3-4 indicates that the criterion is partially met	
If the criterion is met, a score 5 may be allocated	

Suggested report structure and sections

- Title page (report title, student name, semester/year, course code and course name)
- Introduction
- Body (all or some of subsections Literature review, Findings, Analysis, Discussion)
- Conclusion

Sample sections	Tentative word count (2500 – 3500 words)
<p>Abstract</p> <p>Do not use citations in the abstract</p>	100
<p>Introduction (one section, no subsections) “ what is the topic, why important, some background on it, what will the reader see in the other sections</p> <p>Contribute to the holistic evaluation of the assignment</p>	300 -350
<p>Literature review (could be another title, e.g., similar to the topic)</p> <p>---Literature review methodology : what you searched for (you literature review research question) , how you searched, how you selected the papers to review</p> <p>Supports the quality of your research and the quality of your work with sources</p> <p>---Literature review findings</p> <p>Normally , will have subsections, each subsection describing a finding: an issue, or a key point made across the literature reviewed</p> <p>Demonstrates your analytical and critical thinking skills, and also show the quality of your research and the quality of your work with sources</p>	1000 -1250
<p>Analysis and discussion - the critical analysis of your findings .</p> <p>Normally, around all or some of these: meaning and importance of the findings, challenge, strategies to address the challenges, implications , comparisons with other areas (if applicable) .</p> <p>Use subheadings as appropriate</p> <p>Demonstrates your analytical and critical thinking skills, and also show the quality of your research and the quality of your work with sources</p>	700-850

Conclusion (summary of important points from literature review and discussion, limitations, contributions, further research directions Contributes to the holistic evaluation of the assignment	400- 450
References: 20-25 , use APA for in text referencing and in the references section	

Useful Links for writing up a literature review

1. <https://www.citewrite.qut.edu.au/write/writing-well/litreview.html>
2. <https://www.rlf.org.uk/resources/the-structure-of-a-literature-review/>
3. <https://www.op.ac.nz/assets/Student-Hub-Learning-Support/47c7317d64/Writing-a-literature-review.pdf>