

COMP90007 Internet Technologies Research Project

Due Dates: Project report – 25 May 2018 (5pm)

Can be done individually or in pairs (groups of 2)

1. Introduction

The aim of this project is for you to do research on a cutting-edge topic related to computer networks. You will be required to consult scholarly sources for your research and express them at a level where people unfamiliar with your topic can understand easily. You will be graded on your ability to research the state of the art of a topic on computer networks and express a coherent scholarly argument.

2. Research Report

You are required to write a technical report on one of the topics below. Your report should be of a 'survey' nature. A survey should allow the reader to understand the scope of the topic, its history, different approaches and their benefits and drawbacks, and topics related to the main topic. You should cite multiple scholarly references (e.g. books, research papers etc.). You are also required to have a conclusion section about your evaluation and critique on the topic.

The word limit for the report is 800-1200 words if you are working individually and 1200-1500 words if working in groups (2 people at max). Excessively long reports will be penalised.

You will receive a maximum of 12 marks for your report. The grading criteria for these 12 marks are as follows:

1. Format and Structure 10%
2. Coverage of the major themes within the topic including technical details. 40%
3. Critical evaluation 30%
4. Use of accessible examples 10%
5. Quality of sources cited 10%

2.1. List of topics

1. Content delivery networks
2. Software defined networking (SDN)
3. Mobile Edge Computing
4. Fog computing
5. Internet of Things
6. Wireless body area network
7. Tactile internet

8. 5G
9. Internet protocol television (IPTV)
10. Energy-efficient communications and networking
11. Energy efficiency of cloud computing
12. Context aware system and network optimisation
13. Fibre-to-the-home (FTTH)
14. Peer-to-peer (P2P) streaming
15. IPv6 deployment
16. Internet video-on-demand
17. Denial of Service (DoS) Attacks
18. Sensor networks
19. Cloud services (IaaS, SaaS, PaaS)
20. Big data network analytics

Other topics may be suitable. Please consult the lecturer or a tutor if you wish to select an alternative topic.

The university library provides free access to a wide range of scholarly publications (<http://library.unimelb.edu.au/>). You are encouraged to search for recent journal and conference articles on the topics listed above on the site. You can also use the textbook and the lectures as a starting point.

3. Individual Reflection

Along with the report, you will submit an individual reflection document (every student will write their own reflection report and a group submission should have two reflections one each by a member). In this document, you will write about some of the challenges faced by you, things you found interesting, and your overall experience of working on **the research project as well as the network analysis project**. Two small paragraphs (minimum of 50 words each) should be sufficient. You will be graded on the quality of your review so it would be best to be critical and examine your experience (may it be individual or working in pairs) accordingly. Some of the things we expect are:

- Highlighting the strong points about the work performed
- Highlighting the challenges faced
- Highlighting the dynamics of group work (if worked in groups), or how you worked as an individual and the learning curve you had.

You will receive a maximum of 3 marks for the reflection document. Excessively short reflections will be penalised. The reflection report will be appended to the end of the research report and if you are working in groups then both members

need to write their own reflection report and attach it to the research report at the end. This submission will be made by one person in the group only.

4. Administration

This project can be performed individually or in groups of 2 and will be worth 15% of your overall mark in the subject (Research report 10% + Individual Reflection 5%).

4.1 Getting help

If you have any questions, the LMS discussion board will be a useful resource in resolving any issues. If your concern is a personal matter, then you should email the subject coordinator. Any answers posted by the subject coordinator on the LMS discussion board will be considered as part of the project specification. In addition, please keep an eye out for any LMS announcements for any changes made to the project specification.

4.2. Academic honesty

Turnitin will be used as a deterrent against academic dishonesty. The report should consist of your original work (own wording). All citations should be made in an academically recognised style, which should be used consistently throughout the report. Direct quotes should be minimal and should be clearly highlighted by the use of quotation marks with the relevant citation. If you reproduce any diagrams, they should be clearly acknowledged. Plagiarism and collusion constitutes cheating and violates the university policy on academic honesty. Disciplinary action will be taken against students who engage in plagiarism and collusion in accordance with university statute 13.1.18. For examples and more information on what constitutes plagiarism and collusion, please visit <http://academichonesty.unimelb.edu.au>.

4.3 Report submission

The deadline for the final report submission is as specified at the start of this project document. Your research report should be uploaded to the Turnitin systems as a PDF file on the LMS. The report is to be formatted on A4 sized paper in 12 pt text, with 1.5 line spacing and a minimum 2.5 cm margins on the left and right sides. The content you write should be present in the PDF file in the form of text, and not as screenshots and/or images of the text you wrote. Since the reviews are meant to be anonymous, you need to remove references to your name and student ID (basically any and all information that uniquely identifies you) from the report before submitting to Turnitin. Links and exact submission instructions will be posted to the LMS.