SIT719 Analytics for Security and Privacy

Pass Task 1.1: Understanding the Unit

Overview

This unit will provide you with a unique learning experience that ties in two concurrent cyber-security disciplines, namely, data science and cyber-security. With the dramatic development of the Internet, Information Technology, and mobile devices, we are witnessing a great age of information. At the same time, security and privacy in cyberspace have become a critical problem for everyone, every company, and every nation.

This unit provides you with learning experiences that explore the potential privacy and security of information and how analytics can be utilized to solve some of these challenges. Finally, you will study the ethical implications of dealing with large datasets and privacy associated analytics. All these topics will be explored through scaffolded programming assignments. Weekly assessment tasks will be submitted via OnTrack system. At the end of the unit, students will have a solid grounding in how modern analytics work and how they can be applied to network defence.

This is a Pass task, so you **MUST** complete the task and submit the evidence of your work to Ontrack.

Instruction:

This week task is simple where you start preparing yourself for the whole trimester.

Please read the below comments and once you are ok with everything mentioned in this document, **submit the PDF using OnTrack**. **A word version is added in the resource file in OnTrack.**

Section 1

Write the answer to the following queries:

Q1. What are the Unit Learning Outcomes (ULOs)? Hint: you may find at the first-week class slides or look at the unit guide.

Answer1:

1. **Scripting Skills for Cybersecurity Analytics**
• Develop scripting skills to handle large datasets in cybersecurity.
• Learn to use popular toolkits for building analytics.

2. **Ethical, Regulatory, and Governance Constraints**
• Recognize and apply ethical, legal, and governance constraints in data analytics.
• Understand the responsibilities of professionals working with data.

3. **Machine Learning for Cybersecurity**
• Understand the basics of supervised and unsupervised machine learning algorithms.
• Learn their mathematical foundations and implementation using popular libraries.

4. **Network Security and Analytics**
• Explore how analytics can enhance network security.
• Identify useful network defence data for analytics.
• Assess successful cybersecurity defences and areas needing improvement.

5. **Privacy Concerns in Cybersecurity Analytics**
• Understand the technical threats to privacy caused by data analytics in cybersecurity.

Q2. Have you received the Github link?

Answer : yes

Q3. Are you familiar with Google Colab and confident to run github codes on colab?

Answer : yes

Q4. Please write briefly about the concept of portfolio-based unit. (If not sure follow the first-week class lecture)

Answer:

- **Continuous Learning & Assessment**: Students complete a series of tasks over the semester, rather than a single final exam.
- **Practical Focus**: Tasks include scripting, machine learning model development, network security analysis, and privacy protection.
- **Self-Reflection & Critique**: Students integrate their work with personal reflections in the learning journey.
- **Use of OnTrack System**: Tasks are managed via the OnTrack platform, allowing structured progress tracking.

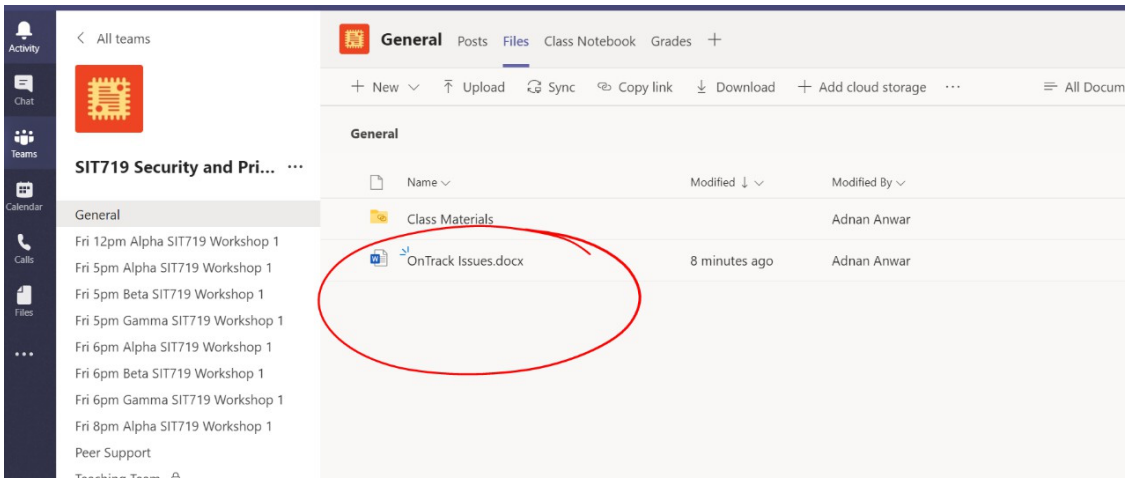
Grading Structure:
• Completing **Pass Tasks** results in a score of 50-59.
• Completing **Pass & Credit Tasks** gives a score of 50-69.
• Including **Distinction Tasks** leads to a score of 60-79.
• Completing all tasks, including **High Distinction Tasks**, results in a score of 60-100.

Section 2

Q5. Read the following comments.

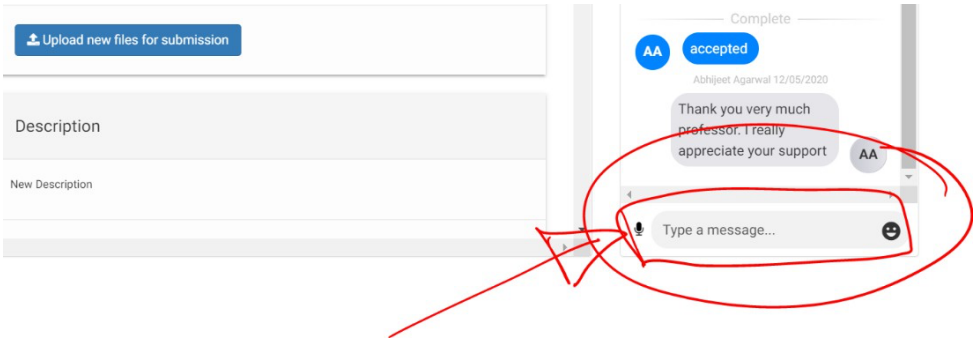
Comment 1: OnTrack Issue

This unit uses onTrack system. Therefore, you need to submit tasks using OnTrack (if not mentioned something else within the tasks, e.g, code may need to be submitted using CloudDeakin, it will be written in the task document clearly if so). You need to upload PDF document files during a regular submission using OnTrack. Please ensure that the PDF has no error or corrupted. If you find an OnTrack error, report it in the OnTrack Issues.docx" file under the file tab of MS Teams. We will try to resolve if that is
a genuine case and related to OnTarck Platform. We recommend reporting in that file so that it will be recorded for everyone. If it is because of your own pdf compilation, your internet, software or laptop issue, we will not be able to help you.



Comment 2: Task discussion

Any question or concern should be discussed during the in person or online "workshop/practical lab" sessions. It is the recommended way. If you cannot join, you may ask the tutor through your OnTrack discussion box (shown below) or post into your MS Teams channel. It may happen that the answer of your question is known to your peers. You are suggested to join the seminars and/ workshops to clarify your queries.



Comment 3: Extension Request

We have already set the deadlines and students are aware of the due date of the tasks beforehand. Therefore, for any contingency or future events, students can plan ahead. If you need to apply for more than 1 weeks of extension, then you need to be detailed and clear about your supporting documents and need to follow Deakin's guideline (in the below link).

https://www.deakin.edu.au/students/faculties/sebe/assignment-extensions

Comment 4: Grading/Marking

The tutors/markers are responsible to provide you feedback and grades on your tasks. D/HD tasks have a rubric. The marking team will provide you feedback based on the rubric.

Comment 5: Practical Notebook

We have provided you with colab notebook files for practicals/workshops.

Comment 6: Recordings for online class (seminars) and workshops (practicals)

The online class and online practical will be recorded. Available after the live session through MS Teams Channels.

Comment 7: Please keep a back up copy of your onTrack tasks

Please keep a back up copy of your onTrack tasks.

Comment 8: Referencing Style

Any **standard referencing style is accepted**. However, IEEE style is preferable..https://guides.lib.monash.edu/citing-referencing/ieee

Comment 9: Update "Target Grade" in the OnTrack System

In this portfolio unit, you must set a "target grade" (discussed in the class, see the video if you have missed). To set up a target, you must consider your capability and your plan towards achieving the ULOs. Please set a realistic target that you can achieve. This target is for your reference only and you can change/modify the target anytime.

Comment 10: Learning Material

This is a portfolio based unit where students learn gradually over the weeks and finally submit a portfolio by compiling the tasks that they complete each week. Therefore, learning is completely based on OnTrack tasks.

Question: Are you okay with the above discussion/comments in Q5?

Answer:

Yes, I am okay with this arrangement

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