Course Project

Programming for Cybersecurity

Due: December 21st 2021 (extension available if requested)

Handup: link to a GitHub repository that contains the code and a readme file that outlines the project, research, and references

Description:

Complete a project that demonstrates your knowledge of programming in some area of cybersecurity. This is deliberately vague to allow you to create your own project. This can be a project that you need to complete for work.

If you do not have a project area that you would specifically like to do, you can pick from these sample ideas:

1. A penetration tester (complete with sample code to test) this could be any, or all of the 25 vulnerabilities that we covered in Sem2-Topic 2.
2. A honey pot, this can be of any functionality, you can either create your own honey bot or demonstrate how you would customise one that exists already.
3. A program that continually analyses data (e.g. from log files, memory, error dumps etc). This can be in either Python or R
4. A program that uses AI to analyse data, this can be any of the techniques we cover in Sem2 topics 7-9 or another technique
5. A program that scans the (static) code in a GitHub repository for vulnerabilities and/or keys, passwords etc.
6. A web application of some kind using Flask of Django. This should have some relevance to Cybersecurity.

Marking scheme:

The marking scheme is deliberately flexible to allow for the different kind of projects

Area	Percent	Description

Code	50%	Well written and efficient code that does what is expected. It should have:
		      Appropriate error handline
		      Robustness
		      Good design
		      Testing code

Readme file	20%	A clear and concise readme file that describes what the project does and any research that was required for the project. The readme file should also have 'usage' instructions
Research	10%	Demonstration that you have done research for this project, by including good references in your readme file
Scope	10%	How comprehensive is the project
Overall project	10%	This is a discretionary mark for the overall 'feal' of the project