



CSE 543: Information Assurance and Security

**Using Blockchain and Machine Learning to significantly improve the security of Cloud-based systems.**

**Group 14 Weekly Report - 6**

**Person prepared this report:** Meghana Amirineni and Sujana Duvvuri Venkateswarlu

**Person approved this report:** Dheeraj Neela

**Person submitted this report:** Dheeraj Neela

**List of members**

1. Dheeraj Neela (Group Leader)
2. Sai Greeshma Gandham (Deputy Leader)
3. Disha Prakash Bhukte
4. Meghana Amirineni
5. Aditi Shashank Joshi
6. Sujana Duvvuri Venkateswarlu
7. Akhil Kumar Gudipoodi

**Meeting Notes**

1) 01/19/2022 - 4:00 PM

Discussion on Title and Objective for the Project Proposal.

2) 01/19/2022 - 9:00 PM

Discussion on Title and Objective for the Project Proposal

3) 01/21/2022 - 10:00 PM

Identifying information/security assaults in Cloud Computing

4) 01/24/2022 - 1:00 PM

Studying references provided by professor

5) 01/24/2022 - 7:00 PM

Initiative session for the project proposal

6) 01/26/2022 - 4:00 PM

Division of tasks to prepare Project proposal report

7) 01/29/2022 - 7:00 PM

Review of project proposal report and making changes

8) 01/30/2022 - 7:00 PM

Finalizing project proposal report content

9) 01/31/2022 - 1:00 PM

Finalized project proposal and submission of the final proposal. 2) 02/01/2022 – 11:00 PM Weekly report submission.

10) 02/02/2022 - 11:00 AM

Review session with professor regarding the project proposal.

11) 02/02/2022 - 5:00 PM

Discussion with other team members as the topic chosen was similar.

12) 02/03/2022 - 10:30 AM

Finalized the project topic after discussing it with the other team members and the TA.

13) 02/07/2022 - 11:45 AM

Discussion with team regarding the current status and updates

14) 02/09/2022 - 7:00 PM

Exchanging the papers gathered by everyone and dividing them for more research about the threats in Cloud Systems.

15) 02/12/2022 – 8:00 PM

Collaborate and brainstorm on different types of threats.

16) 02/14/2022 – 6:00 PM

Review the existing work on using supervised ML techniques to detect intrusions and exploration of training data used for supervised learning

17) 02/15/2022 - 7:00 PM

Reviewing the previous week's progress tasks such as exploration of trained data used for supervised learning and ML techniques.

18) 02/17/2022 – 8:00 PM

Review the existing work on using unsupervised ML techniques to detect intrusions and exploration of training data used for unsupervised learning

19) 02/21/2022 – 6:00 PM

Exploring unsupervised ML algorithms such as k-means, DBSCAN, and expectation-maximization.

20) 02/25/2022 - 6:00 PM

Exploring Blockchain technology to improve cloud security

21) 02/28/2022 - 6:00 PM

Discussion on remaining tasks, task deadlines and mid-term course project report preparation.

### Tasks Summary

Task Number	Task Name	Details of Task	Member	Status
1	Project title proposal	Title and Objective for the Project Proposal	Dheeraj Neela Sai Greeshma	Completed
2	Distribution of Tasks	Distribution of Tasks among team members	Dheeraj Neela Sai Greeshma	Completed

3	Identifying security issues in Cloud Computing	Identifying information/security assaults in Cloud Computing	Meghana Amirineni	Completed
4	Reference papers study	Studying references provided by professor	Dheeraj Neela and Sujana Duvvuri Venkateswarlu	Completed
5	Project proposal	Initiative session for the project proposal	Akhil Kumar Gudipoodi and Sai Greeshma Gandham	Completed
6	Preparing project report	Division of work among the team members	Dheeraj Neela and Sai Greeshma Gandham	Completed
7	Motivation	Writing motivation for Project proposal report	Akhil Kumar Gudipoodi and Sai Greeshma Gandham	Completed
8	Scope of Study	Writing Scope of Study for Project proposal report	Dheeraj Neela and Sujana Duvvuri Venkateswarlu	Completed
9	Expected results	Writing Expected results for Project proposal report	Disha Prakash Bhukte and Aditi Shashank Joshi	Completed

10	References list	Gathering References list for Project proposal report	Meghana Amirineni	Completed
11	Final Project Proposal	Gathering information and finalizing	Dheeraj Neela and Sai Greeshma Gandham	Completed
12	Submission of the final project proposal.	Reviewing the report, making changes, and finalizing it	Dheeraj Neela and Sai Greeshma Gandham	Completed
13	Discussions with the professor regarding the proposal.	Discussed with the professor the project proposal and the queries regarding it.	Dheeraj Neela and Sai Greeshma Gandham	Completed
14	Discussion with the TA	Discussion with the TA regarding the similarity of the topics between 2 teams.	Dheeraj Neela, Disha Prakash Bhukte and Meghana Amirineni	Completed
15	Discussion with other team members	Had discussion sessions with other teams where we discussed about our topics and the similarities	Dheeraj Neela and Sai Greeshma Gandham	Completed
16	Gathered research papers related to Machine Learning.	Analyze some existing cloud based detection systems using machine learning	Disha Prakash Bhukti and Aditi Shashank Joshi	Completed

17	Gathered research papers related to Blockchain.	Analyze some existing cloud-based detection systems using blockchain	Meghana Amirineni and Sujana Duvvuri Venkateswarlu	Completed
18	Gathered research papers related to Machine Learning	Analyze some existing cloud-based detection systems using machine learning.	Akhil Kumar Gudipoodi	Completed
19	Studies related to common threats and vulnerabilities	Did some research on various threats to data.	Sai Greeshma Gandham, Dheeraj Neela	Completed
20	Threats Review	Brainstormed on different threats identified.	Dheeraj Neela, Akhil Kumar Gudipoodi	Completed
21	Divisions of threats among the team members	Distributed the threats among the team to deep dive and gain a detailed understanding of them.	Dheeraj Neela	Completed
22	Exploration of training data used for supervised learning	Gather understanding around the data to be used for training and how the data has been generated.	Akhil Kumar Gudipoodi and Disha Prakash Bhukte	Completed
24	Reviewing the previous week in progress	Exploration of trained data using supervised learning and ML techniques.	Sai Greeshma Gandham, Dheeraj Neela	Completed

25	Exploration of unsupervised ML techniques	Analyze some existing unsupervised ML techniques	Akhil Kumar Gudipoodi, Meghana Amirineni	Completed
26	Exploration of training data used for unsupervised learning	Did some research on various data.	Sai Greeshma Gandham, Dheeraj Neela	Completed
27	Threats Review	Brainstormed on different threats identified.	Sai Greeshma Gandham, Disha Prakash Bhukte	Completed
28	Reviewing various Web Security vulnerabilities	Overview of SQL injection and types of SQL injections.	Akhil Kumar Gudipoodi, Meghana Amirineni and Disha Prakash Bhukte	Completed
29	Reviewing of Distributed Security vulnerabilities	Overview of DOS attack and types involved in it.	Aditi Shashank Joshi, Dheeraj Neela, Sujana	Completed
30	Exploring Blockchain technology	Exploring Blockchain technology to improve cloud security	Meghana Amirineni, Sujana and Disha Prakash Bhukte	In progress

31	Identifying remaining tasks	Identifying remaining tasks, distribution and setting deadlines for the tasks	Aditi Shashank Joshi, Dheeraj Neela, Sujana	Completed
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### Task Progress

Task Name	Member	Date of Review	Reviewer(s)	Review Conclusion	Recommended Action
Title and Objective for the Project Proposal	Everyone	01/19/2022	Dheeraj Neela, Sujana Duvvuri Venkatesw arlu and Akhil Kumar Gudipoodi	Satisfactory	No Action required
Studying references provided by professor	Everyone	01/24/2022	Sai Greeshma Gandham, Meghana Amirineni and Disha Prakash Bhukte	Satisfactory	No Action required
Identifying information/security assaults in Cloud Computing	Everyone	01/21/2022	Dheeraj Neela and Aditi Shashank Joshi	Satisfactory	No Action required
Project proposal report planning	Dheeraj Neela and Sai Greeshma Gandham	01/26/2022	Dheeraj Neela and Sai Greeshma Gandham	Satisfactory	No Action required



Motivation	Motivation Akhil Kumar Gudipoodi and Sai Greeshma Gandham	01/28/2 022	Akhil Kumar Gudipoodi and Sai Greeshma Gandham	Satisfactory	No Action required
Scope of Study	Dheeraj Neela and Sujana Duvvuri Venkateswarlu	01/28/ 2022	Dheeraj Neela and Sujana Duvvuri Venkatesw arlu	Satisfactory	Formatting required
Expected major results	Disha Prakash Bhukte and Aditi Shashank Joshi	01/29/ 22	Disha Prakash Bhukte and Aditi Shashank Joshi	Satisfactory	No Action required
References list	Meghana Amirineni	01/29/ 22	Meghana Amirineni	Satisfactory	No Action required
Final Project Proposal	Everyone	01/30/ 22	Dheeraj Neela, Meghana Amirineni, Akhil Kumar Gudipoodi	Satisfactory	No Action required
Project proposal submission	Dheeraj Neela	01/31/ 20 22	Dheeraj Neela and Sai Greeshma Gandham	Satisfactory	No Action required

Individual task review	Everyone	02/03/2022	Dheeraj Neela, Akhil Kumar Gudipoodi, Suajan Duvvuri Venkatesw arlu	Satisfactory	No Action required
Sharing knowledge on gathered research papers	Everyone	02/09/2022	Sai Greeshma Gandham, Meghana Amirineni and Disha Prakash Bhukte	Satisfactory	No Action Required
Threats review	Everyone	02/11/2022	Dheeraj Neela, Akhil Kumar Gudipoodi, Suajan Duvvuri Venkatesw arlu	Satisfactory	No Action Required
Task Division and finalizing threats	Everyone	02/12/2022	Dheeraj Neela, Meghana Amirineni, Akhil Kumar Gudipoodi	Satisfactory	No Action Required
ML Techniques Review	Everyone	02/17/2022	Dheeraj Neela, Aditi Shashank Joshi and Sujana Duvvuri Venkatesw arlu	Satisfactory	No Action Required
Reviewing the previous week in progress	Everyone	02/15/2022	Dheeraj Neela, Aditi Shashank Joshi and Sujana Duvvuri Venkatesw arlu	Satisfactory	No Action Required

Exploration of unsupervised ML techniques	Akhil Kumar Gudipoodi, Meghana Amirineni	02/21/2022	Akhil Kumar Gudipoodi, Meghana Amirineni	Satisfactory	No Action Required
Exploration of training data used for unsupervised learning	Sai Greeshma Gandham, Dheeraj Neela	02/21/2022	Sai Greeshma Gandham, Dheeraj Neela	Satisfactory	No Action Required
Threats Review	Everyone	02/18/2022	Sai Greeshma Gandham, Meghana Amirineni and Disha Prakash Bhukte	Satisfactory	No Action Required
Reviewing various Web Security vulnerabilities	Akhil Kumar Gudipoodi, Meghana Amirineni and Disha Prakash Bhukte	02/25/2022	Akhil Kumar Gudipoodi and Disha Prakash Bhukte	Satisfactory	No Action Required
Reviewing of Distributed Security vulnerabilities	Aditi Shashank Joshi, Dheeraj Neela, Sujana	02/25/2022	Aditi Shashank Joshi, Dheeraj Neela, Sujana	Satisfactory	No Action Required
Exploring blockchain technology to improve cloud security	Meghana Amirineni, Sujana and Disha Prakash Bhukte	02/25/2022	Sai Greeshma Gandham, Aditi Shashank Joshi and Akhil Kumar Gudipoodi	Needs work	More in depth understanding required

Identifying remaining tasks, distribution and setting deadlines for the tasks	Everyone	02/28/2022	Dheeraj Neela, Meghana Amirineni and Disha Prakash Bhukte	Satisfactory	No Action Required
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## Issues

### 1. No Issues

## Gantt chart for showing the major tasks

