## **Group 1-5 Mid-Semester Project Evaluation Report**

**Project Title**: Detection Process of Suspicious Activities on Social Media Using Data Mining and Machine Learning.

## List of members

**Group Leader:** [Krupaben Kothadia](mailto:kkothadi@asu.edu)

**Group Deputy Leader:** [Gautham Vijayaraj](mailto:gvijaya6@asu.edu)

**Group Members:** [Krupaben Kothadia](mailto:kkothadi@asu.edu)

* [Gautham Vijayaraj](mailto:gvijaya6@asu.edu)
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* [Justin Young](mailto:jtyoun15@asu.edu)
* [Anuranjan Dubey](mailto:adubey37@asu.edu)
* [Rahul Nayak](mailto:rrnayak@asu.edu)
* [Sangeeth Santhosh](mailto:ssantho9@asu.edu)
* [Yeshwanth Reddy Chennur](mailto:ychennur@asu.edu)

## Project Progress

* We have selected 7 research areas to tackle challenges and achieve our project's main goal.
* Project Scope successfully accomplished: Data Exploration, leveraging machine learning models and model security assurance.
* Project Scope in progress: Secure Data Collection, Data Preprocessing/NLP, Data mining and model evaluation.
* Deeply studying data exploration reveals various suspicious content across social media platforms.
* Secure data collection techniques enhanced our project's security through valuable research on existing methods.
* Focusing on data preprocessing, NLP, and data mining enhances system robustness through paper exploration.
* Discussing papers on ML models, its security and its evaluation led to reliable machine learning models.
* Everyone excelled, producing in-depth and weekly progress reports on important papers in their respective domains.
* Every member contributed once/twice to weekly reports and GANTT charts, fostering collaboration and accountability.
* Each member contributed to the project plan and midterm review reports creation.

Next Steps

* We will diligently prepare for the upcoming Midterm Review, incorporating all the research we have conducted thus far.
* Weekly in-depth and progress reports of each on their remaining assigned papers would be completed.
* Completing research on Secure Data Collection, Data Preprocessing, Data Mining, and Model Evaluation is our goal
* Weekly, one team member visits the writing center for in-depth report approval.
* All team members would familiarize ourselves with less important papers to enhance domain knowledge.
* If the team finds better research papers, we'll replace them and analyze the new ones comprehensively.
* Group leader and deputy organize weekly meetings, track team progress, and delegate tasks for projects.
* Our goal: Compile a final report on detecting suspicious activities in social media effectively through teamwork.
* Consistent, detailed updates and collaboration will ensure the success of our project and its final report.

Individual Contribution

* Member Name: [Krupaben Kothadia](mailto:kkothadi@asu.edu) (Group Leader)
  + Focussed on finding existing data preprocessing methodologies including NLP and data mining techniques.
  + Completed an in-depth analysis of 3 reference papers.
  + Handled other tasks which include completing reports, evaluating and approving reports, preparing the Work Distribution Draft, GANTT chart and weekly report, assigning tasks and organizing the drive.  
      
    Individual Report: [Krupaben\_Kothadia\_Individual\_Progress\_Report.docx](https://docs.google.com/document/d/1zjFC6-cTxe6-dnSt7yVXMjjZAqcZ400L/edit?usp=drive_link&ouid=107121383631492907164&rtpof=true&sd=true)
* Member Name: [Gautham Vijayaraj](mailto:gvijaya6@asu.edu) (Deputy Leader)
  + Focussed on finding data mining techniques which maintained the right balance between the efficiency and the data integrity.
  + Completed an in-depth analysis of 4 reference papers.
  + Handled other tasks which include completing reports, evaluating and approving reports, preparing the GANTT chart and weekly report, taking meeting notes and organizing the drive.  
    Individual Report: [Gautham\_Vijayaraj\_Individual\_Progress\_Report.docx](https://docs.google.com/document/d/1157cX7Q1fpgZ8voOSeTpuP_VKo93W7Ao/edit?usp=drive_link&ouid=116067103181768245745&rtpof=true&sd=true)
* Member Name: [Avani Mundra](mailto:amudra@asu.edu)
  + Focussed on finding data mining techniques that are accrue and efficient enough to process the varied and unstructured data found in Social Media.
  + Completed an in-depth analysis of 3 reference papers.
  + Handled other tasks which include completing reports, evaluating reports, preparing the GANTT chart and weekly report.  
      
    Individual Report: [Avani\_Mundra\_Individual\_Progress\_Report.docx](https://docs.google.com/document/d/1keNeP4SwsfaxhxgHCnZAwNZLAwzzWoUT/edit?usp=sharing&ouid=112867995748295868322&rtpof=true&sd=true)
* Member Name: [Anuranjan Dubey](mailto:adubey37@asu.edu)
  + Focussed on finding if the existing machine learning and classification algorithms available for Twitter can be extended beyond for adapting it on other Social Media Platforms.
  + Completed an in-depth analysis of 4 reference papers.
  + Handled other tasks which include completing reports, evaluating reports, preparing the GANTT chart and weekly report.  
      
    Individual Report: [Anuranjan\_Dubey\_Individual\_Progress\_Report.docx](https://docs.google.com/document/d/1iDjZoZck6B1N0G3hOK1FSsX9b6ojbBMz/edit?usp=drive_link&ouid=101870164252766530632&rtpof=true&sd=true)
* Member Name: [Justin Young](mailto:jtyoun15@asu.edu)
  + Focussed on finding techniques producing a secure machine learning detection model which can refrain from tampering or unauthorized modifications from hackers.
  + Completed an in-depth analysis of 4 reference papers.
  + Handled other tasks which include completing reports, evaluating reports, preparing the GANTT chart and weekly report.  
      
    Individual Report: [Justin\_Young\_Individual\_Progress\_Report.docx](https://docs.google.com/document/d/121ED9I0MXZwvfzIB1EJS0m4bWfJFF2hQ/edit?usp=drive_link&ouid=117665874805656519311&rtpof=true&sd=true)
* Member Name: [Rahul Nayak](mailto:rrnayak@asu.edu)
  + Focussed on finding the different types of suspicious activities that exist on social media in order to explore detection techniques for the same.
  + Completed an in-depth analysis of 3 reference papers.
  + Handled other tasks which include completing reports, evaluating reports, preparing the GANTT chart and weekly report.  
      
    Individual Report: @[Rahul\_Nayak\_Individual\_Progress\_Report.docx](https://docs.google.com/document/d/1vPx_wHK3lAZZQ53aHwOmJmpAJIwapnlG/edit#heading=h.ex4ljgcoifmx)
* Member Name: [Sangeeth Santhosh](mailto:ssantho9@asu.edu)
  + Focussed on finding the right approach to classify social media accounts into suspicious or non-suspicious without false grouping.
  + Completed an in-depth analysis of 4 reference papers.
  + Handled other tasks which include completing reports, evaluating reports, preparing the GANTT chart and weekly report.  
      
    Individual Report: [Sangeeth Santhosh\_Individual\_In-depth\_Report.docx](https://docs.google.com/document/d/1Ldh1ldPvBRYJMhr7a66R4gR6AKlbWJU3/edit?usp=drive_link&ouid=100662470547641371728&rtpof=true&sd=true)
* Member Name: [Yeshwanth Reddy Chennur](mailto:ychennur@asu.edu)
  + Focussed on studying and finding machine learning algorithms that are not only efficient but also evolve in real-time as the malicious attackers evolve their tactics.
  + Completed an in-depth analysis of 2 reference papers.
  + Handled other tasks which include completing reports, evaluating reports, preparing the GANTT chart and weekly report.  
      
    Individual Report: [Yeshwanth\_Reddy\_Chennur\_Individual\_In-depth\_Report.docx](https://docs.google.com/document/d/11vKsKw3MoRBUCHBcrFRM8hQpJ7R7Yqek/edit?usp=drive_link&ouid=100701464624984336471&rtpof=true&sd=true)

## Submission Details

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**The report is approved by:** [Krupaben Kothadia](mailto:kkothadi@asu.edu)[Gautham Vijayaraj](mailto:gvijaya6@asu.edu)