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|  | BHASKARACHARYA NATIONAL INSTITUTE FOR SPACE APPLICATIONS AND GEO-INFORMATICS  **WEEKLY PROGRESS REPORT (03/04/2023 – 09/04/2023)** |
| **WEEK 11** | |

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| PROJECT NAME | MALWARE DETECTION USING ML |

**DESIGN AND IMPLEMENT ML MODEL TO DETECT MALWARE IN SYSTEM**

**PROJECT DESCRIPTION:**

**SHASHANK SHARMA, PRATHAM PATEL, YASH SONI, SHUBHAM PATEL**

**GROUP MEMBERS:**

**I2**

**GROUP ID:**

**HARSH KIRATSATA**

**GROUP GUIDE:**

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**PROJECT LINK:** [**https://github.com/shashankgsharma/malwaredetectionsystem**](https://github.com/shashankgsharma/malwaredetectionsystem)

**03/04/2023 TILL 09/04/2023 (7 DAYS)**

**Performing Traditional ML and MLP Deep Learning for behavioral analysis**

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| 03/04/2023 | Found Behavioral log dataset and performed Preprocessing and  EDA on it |
| 04/04/2023 | **Performed K-fold cross validation for train, test for 4 different traditional ml algorithms** |
| 05/04/2023 | **Comparison and EDA of results from traditional ml algos** |
| 06/04/2023 | **Researched about Neural Networks and sequential MLP model implementation** |
| 07/04/2023 | **Preprocessed data separately for MLP and trained the dataset for model development** |
| 08/04/2023 | **Did model building for MLP and evaluated the training and validation loss with increasing epochs** |
| 09/04/2023 | **Holiday** |

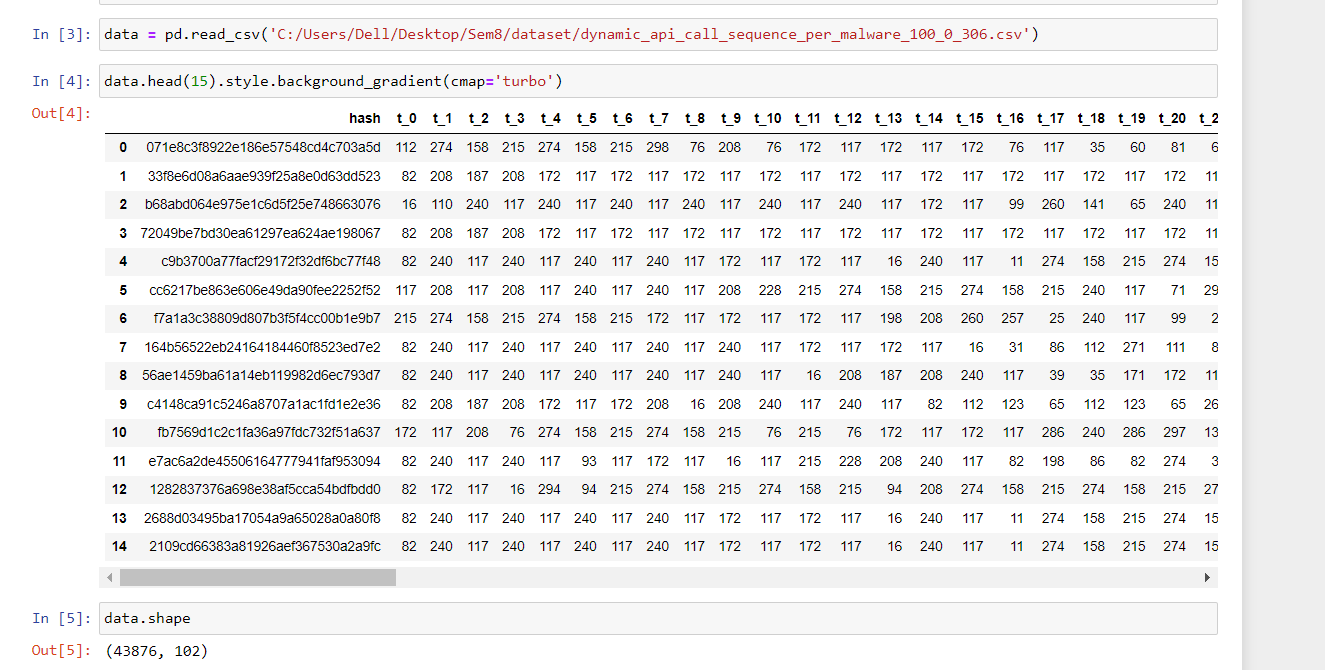
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| **WEEK 12(PLAN)** | **We’re planning to implement our model and test it on 4 other different unlabeled behavioral log datasets with different (malware):(benign) files ratio, and evaluate their results.** |

**REFERENCE:**

* <https://www.kaggle.com/code/davisl07/malware-detection>
* <https://github.com/rohan-paul/MachineLearning-DeepLearning-Code-for-my-YouTube-Channel/tree/master/Kaggle_Competition/Microsoft_Malware_Classification_BIG_2015>
* <https://github.com/dchad/malware-detection>
* <https://towardsdatascience.com/malware-detection-using-deep-learning-6c95dd235432>
* <https://viso.ai/deep-learning/deep-neural-network-three-popular-types/#:~:text=A%20multilayer%20perceptron%20%28MLP%29%20is%20a%20class%20of,computing%20power%20required%20by%20modern%20deep%20learning%20architectures>

**SCREENSHOTS:**

1. **Chart

   Description automatically generatedTRADITIONAL ML:**
2. **DEEP LEARNINIG MLP MODEL:**

**Chart, line chart

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