**Name** –DEVRAT YASHRAJ DEEPAK

**Roll Number** – 2237031

**Class** – TE(AI&DS)

**SEMINAR DOMAIN :** Machine Learning

**TOPIC :- Cyber Attack Detection of Electric Vehicles Using Physics Guided Machine Learning .**

**LITERATURE SURVEY**

**Assignment 2:**

Assignment on analysing the latest technical topic through literature survey; this assignment may include progress of the topic from last few years like contents from review reports, journals or research papers related to selected topic for seminar work.

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| **Paper** | **Technique/Algorithm Advantage** | **Advantages** | **Research gap/ future work** |
| [1] Lulu Guo,2021 | SVM(Support Vector Machine) | ∙ understandable  margin of dissociation between classes | ∙ Algorithm is not suitable for large dataset. |
| [2] Cabell Hodge.,2019 | Mitigation for CAV’s | Secured communication infrastructure | This research lays down the  framework |
| [3] Samarjit Chakraborty,  2016 | Nondominated sorting genetic algorithms | It has excellent parallel capabilities | Difficult to understand |
| [4] Fei Miao.,2018 | Fault detection isolation and reconfiguration (FDIR) | Expensive Technique | Algorithm is not suitable for large data sets. |
| [5] Siddharth Sridhar,2014 | Statistical Learning Algorithm | Collects data from previous experience | Low accuracy |

**References:**

1. Lulu Guo , Jin Ye , Senior Member, IEEE, and Bowen Yang , Graduate Student Member, IEEE

2. C. Hodge, K. Hauck, S. Gupta, and J. C. Bennett, “Vehicle cybersecurity threats and mitigation approaches,” Nat. Renew. Energy Lab.(NREL), Golden, CO, USA, Tech. Rep. NREL/TP-5400-74247, 2019. [Online]. Available: https://www.nrel.gov/docs/fy19osti/74247.pdf

3. S. Chakraborty, M. A. Al Faruque, W. Chang, D. Goswami, M. Wolf, and Q. Zhu, “Automotive cyber–physical systems: A tutorial introduction,” IEEE Des. Test, vol. 33, no. 4, pp. 92–108, Aug. 2016.

4. ] F. Miao, Q. Zhu, M. Pajic, and G. J. Pappas, “Coding sensor outputs for injection attacks detection,” in Proc. 53rd IEEE Conf. Decis. Control, Dec. 2014, pp. 5776–5781.

5. ] S. Sridhar and M. Govindarasu, “Model-based attack detection and mitigation for automatic generation control,” IEEE Trans. Smart Grid, vol. 5, no. 2, pp. 580–591, Mar. 2014.