

# Machine Learning Based IoT Network Intrusion Detection Classification

**Dr. Jyoti Deshmukh<sup>1</sup>, Pooja Hargude<sup>2</sup>, Divya Ghate<sup>3</sup>, Sacchidanand Linge<sup>4</sup>, Rahul Mahajan<sup>5</sup>**

Faculty, Department of Computer Engineering / Information Technology<sup>1</sup>

Students, Department of Computer Engineering / Information Technology<sup>2,3,4,5</sup>

G H Raison Institute of Engineering and Technology, Pune, Maharashtra, India

**Abstract:** *IoT network is a promising technology, IoT implementation is growing rapidly but cybersecurity is still a loophole, detection of attacks in IOT infrastructures is a growing concern in the field of IoT. With the increased use of Internet of Things in different areas, cyber-attacks are also increasing proportionately and can cause failures in the system. IDS become the leading security solution. Anomaly based network intrusion detection (IDS) detection plays a major role in protecting networks against various malicious activities. Improving the security of IoT networks has become one of the most critical issues. This is due to the large-scale development and deployment of IoT devices and the insufficiency of Intrusion Detection Systems (IDS) to be deployed for the use of special purpose networks. In this article, the performance of several machine learning models has been compared to accurately predict attacks on IoT systems, the case of imbalanced classes was subsequently treated using the SMOTE technique.*

**Keywords:** IoT, Network Intrusion Detection

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