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Paper Title	A Review on AI and Machine Learning Based Approaches for Cybersecurity Threat Detection
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Abstract & Keyword	*Abstract* *In order to reverse the trend of decreasing ridership,changes to how cities organize their communities andtransit systems need to take place. Part of these effortsinclude improving information systems operated bytransit agencies through artificial intelligence andother means to aid operators in the decision-makingprocess and help riders be better informed of any changes to their commute.The data collection module is transformed from anactive process of limited observations to a passiveprocess capable of capturing all of the available dataa transit operator has available. The featureextraction module evolves from a sequential processinvolving the combination and pre-processing oftabular data into a module capable of generatingdatasets from hierarchial time-series data streams ata rate of thousands of records per second. Thistechnique would allow feature generation toparticipate as part of the fine-tuning process. Finally, the evaluation module introduces new standards forevaluating public transit models by proposingvisualizations and test sets based on routes and timesrather than a single-value performance metric. Themodule also proposes the use of shifting binaryclassification techniques to provide a easier-tounderstand insights in model performance.* *Keyword :- Machine Learning, Cybersecurity, ThreatDetection, AI, Network Security.*
Paper Download Link	https://ijemmr.co.in/wp-content/uploads/2026/06/IJEMMR_Vol-12-Issue-06-June-2026_Sujal_pagenumber.pdf
Paper Title	Developing Machine Learning Algorithms for Constraint Physical Systems of Cybersecurity Threats
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Abstract & Keyword	*This thesis explores two computational approaches to learn and simulate complex physical systems exhibiting constraint characteristics. The target applications encompass both solids and fluids. On the solid side, we proposed a new family of data-driven simulators to predict the behaviors of an unknown physical system by learning its underpinning constraints. We devised a neural projection operator facilitated by an embedded recursive neural network to interactively enforce the learned underpinning constraints and to predict its various physical behaviors. Our method can automatically uncover a broad range of constraints from observation point data, such as length, angle, bending, collision, boundary effects, and their combinations, in the context of a diverse set of physical systems including rigid bodies, ropes, articulated bodies, and multi-object collisions. On the fluid side, we proposed a gauge numerical simulator to model fluid phenomena using Clebsch wave functions. Our method combines the expressive power of Clebsch wave functions to represent coherent vortical structures and the generality of gauge methods to accommodate a broad array of fluid phenomena. We devised a transformed wave function as the system's gauge variable to improve a fluid simulator's vorticity generation and preservation ability.* *Keyword :- Machine Learning, Cybersecurity, Cybersecurity Threat Detection, Cyber-Physical Systems, Constrained Physical Systems*
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