

**International Journal of Engineering, Management and Medical
Research (IJEMMR)**

ISSN: 2395-2180

E-Mail:- ijemmr2395@gmail.com

Volume-12-Issue-07–July -2026

Paper Title	A Review on Developing Machine Learning Algorithms for Constraint Physical Systems of Cybersecurity Threats
Authors & Affiliation	Hansika Sachdeva ¹ , Satish Pathak ² , Dr. Rajeev Yadav ³ M. Tech. Scholar, Department of Computer Science Engineering, SKU Chhatarpur ¹ , M.P. India Department of Computer Science Engineering, SKU Chhatarpur ² M.P. India Department of Computer Science Engineering, SKU Chhatarpur ³ M.P. India
Abstract& Keyword	<i>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. We showcase our method by simulating various types of incompressible flow phenomena, including complex vortex filament dynamics, fluids with different obstacles, and surface-tension flow.</i> Keyword :- Machine Learning, Cybersecurity, Cybersecurity Threat Detection, Cyber-Physical Systems, Constrained Physical Systems.
PaperDownload Link	https://ijemmr.co.in/wp-content/uploads/2026/07/IJEMMR_July_2026_Hansika-Paper-2_pagenumber.pdf

Paper Title	Experimental Study on the impact on Strength of Concrete with Fly Ash and Plastic waste
Authors & Affiliation	Siddharth Gupta ¹ , Tirtha Sathi Bandyopadhyay ² PG Student, Dept. Of Civil Engg, LNCT College, Bhopal, M.P India ¹ Asst. Professor, Dept. Of Civil Engg, LNCT College, Bhopal, M.P, India ²
Abstract& Keyword	<i>Abstract: As now a day the natural resources getting exhausted so construction technology is moving toward the utilization of industrial waste in our we utilize The present study covers the use or recyclede-wastes as replacement of coarse aggregates and partial replacement of cement by fly ash in concrete.The main aim of the study is to investigate the change in mechanical properties of concrete with theaddition of e-wastes in concrete.It is found that the use of e-waste aggregates results in the formationof lightweight concrete. In This research project Coarse aggregate is partially replaced by electronicwaste from 0% to 30% Then in these mix 10%, 20% and 30% of fly ash is also added by partialreplacement of cement. Various test like Specific Gravity Test, fineness modulus, Bulking of Sand,Water absorption Test, Aggregate Crushing Value, Aggregate Impact Test and aggregate abrasionvalue, slump cone test, compressive strength test is also performed on concrete ingredient andconcrete.</i> <i>Keywords: concrete, electronic waste, fly ash, partial replacement, crushing loads, compressive strength, Tensile strength.</i>
PaperDownload Link	https://ijemmr.co.in/wp-content/uploads/2026/07/IJEMMR_Siddharth-Gupta_pagenummer.pdf
Paper Title	Sensor-Based Parametric Characterization of Solar Photovoltaic Panel Performance Under Varying Illuminance Conditions
Authors & Affiliation	1st Siju George Research Scholar LNCT University Bhopal, India siju.3001@gmail.com 2nd Dr Ashish Kumar Rai Associate Professor LNCT University Bhopal, India
Abstract& Keyword	Abstract— This research paper presents an investigation into the application of smart embedded technology for the parametric analysis of solar photovoltaic (PV) panels. The proposed Arduino-enabled approach utilizes sensors to collect real-time data on various parameters such as temperature, irradiance, and voltage, allowing for comprehensive analysis of panel performance. Solar PV panels are widely used for harnessing renewable energy, but their performance can be affected by various factors such as shading, dust accumulation, and aging. Therefore, continuous monitoring and evaluation of PV panel parameters are crucial to ensure optimal energy generation. Keywords— Solar PV, Arduino, Voltage and Current Sensor, Light Sensor, Temperature sensor.

PaperDownload Link	https://ijemmr.co.in/wp-content/uploads/2026/08/IJEMMR_July_2026_Siju_pagenumber.pdf
Paper Title	PERFORMANCE EVALUATION OF A SOLAR DRYER FOR DRYING RED CHILLI WITH AND WITHOUT LHS BY USING PCM
Authors & Affiliation	Pentar Kumar 1 1scholar Dr. C.V. Raman University, Vaishali, Bihar Dr. Rahul Kumar Singh2 2Associate Professor Rabindranath Tagore University, Bhopal
Abstract& Keyword	Abstract— The present research investigates the comparative thermal and drying performance of a passive solar tray dryer with and without latent heat storage under the climatic conditions of Bihar. The primary objective is to evaluate the effectiveness of integrating a phase change material (PCM) for thermal energy storage to extend drying hours, improve temperature regulation, and enhance the quality of dried red chilli. During peak sunshine hours, excess solar energy is absorbed and stored by the PCM in the form of latent heat. This stored energy is subsequently released during periods of low solar intensity or after sunset, thereby maintaining a relatively stable drying temperature and enabling continuous drying. Two identical passive solar tray dryers were designed and fabricated for the experimental investigation. Each dryer consisted of a drying chamber having a base area of 1.5 m × 0.5 m with a transparent cover inclined at an angle of 30° to maximize solar energy absorption. One dryer served as the conventional solar tray dryer, while the second dryer was integrated with a latent heat storage system. Approximately 1kg of paraffin wax was employed as the phase change material and encapsulated inside mild steel pipes of 20 mm diameter with varying lengths. These PCM-filled pipes were strategically positioned along the base and side walls of the drying chamber to facilitate efficient heat storage and release. The fabricated dryers were initially tested under no-load conditions for thermal performance evaluation over two consecutive clear-sky days. Subsequently, drying experiments were conducted using freshly harvested red chilli collected from local agricultural farms in Bihar. Comparative experiments were performed under three different drying modes: conventional open sun drying, solar tray drying without PCM, and solar tray drying with PCM. Throughout the experiments, important parameters such as solar radiation, ambient temperature, drying chamber temperature, relative humidity, moisture reduction, drying rate, and product quality were monitored and analyzed. Keywords: - Heat Transfer, Solar Energy, Phase Change Materials, Latent Heat, Solar Tray Dryer, Thermal Degradation, Temperature Difference.
PaperDownload Link	https://ijemmr.co.in/wp-content/uploads/2026/08/IJEMMR_Pentar-Kumar_pagenumber.pdf