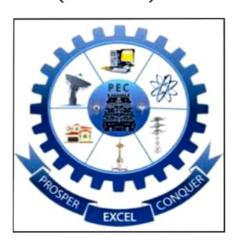
## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

## IBM – LITERATURE SURVEY PROJECT TITLE

## GAS LEAKAGE MONITORING AND ALERTING SYSTEM

(2022-2023)



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S.NO	TITLE OF THE PROJECT	ADVANTAGES	DISADVANTAGES	TECHNOLOGY USED
1.	Sensor-Based Gas Leakage Detector System	a low-cost advanced sensor-based gas leakage detector, alert and control system is proposed and discussed. The system is very efficient, user friendly, portable, small in size and cost effective	adding more software based intelligent functions with this system. This is an automatic gas detection, control and alert system	gas sensing technology
2.	An Empirical Study on System Level Aspects of Internet of Things (IoT)	Millions of devices exchange information using different communication standards, and interoperability between them is a significant issue. This paper provides the current status of the communication standards and application layer protocols used in IoT with the detailed analysis	IoT applications are provided. Then, the current challenges in the IoT system design are analyzed. Later, the present research trends in IoT architectures are articulated and also described the issues that are necessary to be addressed in the future	IOT technology.
3.	Automated and Scalable Online Conformance Testing for IoT Applications.	This technique of automatic conformance testing can lessen the cost and human intercession to decrease the number of missteps.	The current IoT market is fragmented due to the inefficiency in conformance testing, which creates interoperability issues between	IOT technology.

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			multiple IoT applications.	
4.	A Survey on the Integration of Blockchain With IoT to Enhance Performance and Eliminate Challenges	The emergence of blockchain opened the door to solve some challenges related to IoT networks. Blockchain characteristics such as security, transparency, reliability, and traceability make it the perfect candidate to improve IoT systems, solve their problems, and support their future expansion.	This research proposes a new architecture based on three layers system consisting of; devices layer, dewblockchain layer, and cloudlet-blockcha in layer. It is the only architecture that utilizes dew computing in the integration process between IoT and blockchain.	Block chain technology.
5.	An Efficient Counter-Based DDoS Attack Detection Framework Leveraging Software Defined IoT (SD-IoT)	The increase in DDoS attacks has made it important to address the consequences which imply in the IoT industry. This research proposes an SD-IoT based framework that provides security services to the IoT network. We developed a C-DAD (Counter-based DDoS Attack Detection) application that is based on counter values of different network parameters, which helps to detect DDoS attack successfully.	We have extensively analyzed the proposed framework's performance for attack detection time and other parameters such as SD-IoT network throughput, CPU and memory utilization, etc.	SD-IOT technology.

6.	REMOS-IoT-A Relay and Mobility Scheme for Improved IoT Communication Performance.	This paper proposes REMOS-IoT - A RElay and MObility Scheme for improved IoT communication performance in support of increased QoS for the data exchange services between mobile IoT devices.	Although REMOS-IoT was deployed on NS-3, significant differences were not found when comparing the schemes, in relation to the simulator used, with results being alike.	IOT technology.
7.	TON_IoT Telemetry Dataset: A New Generation Dataset of IoT and IIoT for Data-Driven Intrusion Detection Systems	This paper addresses this issue and proposes a new data-driven IoT/IIoT dataset with the ground truth that incorporates a label feature indicating normal and attack classes, as well as a type feature indicating the sub-classes of attacks targeting IoT/IIoT applications for multi-classificatio n problems.	The main finding of the evaluation was that RF and CART achieved the highest score in all metrics on both per-device datasets and the combined one. This finding indicated an inherent advantage of both methods in distinguishing normal class and different attack classes.	IOT Telemetry technology.
8.	Routing Optimization For Cloud Services in SDN-based Internet of Things With TCAM Capacity Constraint	With the rapid increase of IoT devices and applications, the backhaul or backbone networks, which transmit IoT traffic to various in-network clouds, will experience a predicted explosion in the	The volume of data required to be sent to nearby clouds through backhaul network will increase explosively in the near future	IOT technology.

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		volume of carried traffic.		
9.	Gas Detection	In this work, a	This is essential	Artificial
	and	multimodal	in high-risk	Intelligence
	Identification	Al-based fusion	applications	Based Sensor
	Using	framework for	such as leak	Fusion
	Multimodal	reliable	detection in	
	Artificial	identification	chemical plants,	
	Intelligence	and detection	identification of	
	Based Sensor	of gases is	explosives, etc.	
	Fusion	developed. We	The proposed	
		considered four	architecture is	
		classes for data	based on the	
		collection using	deep learning	
		sensors, namely	frameworks and	
		thermal camera	hence require	
		for capturing	large number of	
		the thermal	data samples	
		signature of the	for appropriate	
		gases and array	training of the	
		of gas sensors	network.	
		for detection of		
		specific gases.		
9.	Automatic Gas	a robotic drive	The integration	Integration
	Leakage	which is	technology may	technology
	Detection and	capable	also create new	
	Prevention	of detecting the	risks. Sensor	
	System	gas leakages in	technologies,	
		pipelines and it	for example,	
		will detect the	will need to be	
		leakage and	robust enough	
		automatically	to prevent false	
		closes the valve	alarms, and	
		by using	ensure that vital	
		Arduino	information	
		controller	such as the	
			location of	
			occupants	
			not lost due to	
			data overload	
10		22	during a fire.	
10.	LPG Gas	Liquid petroleum	When heavy	Wireless and
	Leakage	gas (LPG) is	dust, steam or	GSM
	Detection and	highly inflammable and	fog blocks the	technology
	Alert System	can burn even at	laser beam, the	
		some distance	system will not	
		from the source		
		and source		

of leakage. Most		
fire accidents are	measurements.	
caused because		
of a poor-quality		
rubber tube or		
the regulator is		
not turned off		
when not in use.		
Therefore,		
developing the		
gas leakage alert		
system is very		
essential.		