E-PALLI
INTERNATIONAL CONFERENCES (EIC)

23 & 24 December 2022

Kuala Lumpur, Malaysia

BOOK OF ABSTRACTS

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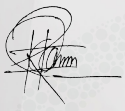
MESSAGE FROM CONVENER

We are delighted to welcome our international presenters, delegates to 1st E-Palli International Conference (EIC) at Kuala Lumpur, Malaysia hosted by the E-Palli Publishers Delaware, USA. There is 15 different conferences are going to be hosted in two major categories; Science, Technology, Engineering and Mathematics (STEM), and Business, Arts and Social Sciences (BAS).

We have observed a steady rise in the number of quality manuscripts being received in the conference. Total of 210 paper received and 692 researchers registered for the conference. We are very fortunate that all accepted papers will be published in the conference proceedings and the selected paper will be published in double-blinded peer-reviewed international indexed journals with DOI. The papers will be published in the following journals and more journals will be added in the list; American Journal of Agricultural Science, Engineering, and Technology; American Journal of Multidisciplinary Research and Innovation; American Journal of Economics and Business Innovation; American Journal of Environment and Climate; American Journal of Arts and Human Science; American Journal of Education and Technology; American Journal of Life Science and Innovation; American Journal of Interdisciplinary Research and Innovation; American Journal of Geospatial Technology; American Journal of Bioscience and Bioinformatics; American Journal of Innovation in Science and Engineering; American Journal of Environmental Economics; American Journal of Food Science and Technology; American Journal of Youth and Women Empowerment; American Journal of Chemistry and Pharmacy; American Journal of Social Development and Entrepreneurship; American Journal of Applied Statistics and Economics; American Journal of Smart Technology and Solutions; American Journal of IR 4.0 and Beyond; American Journal of Energy and Natural Resources; American Journal of Society and Law; American Journal of Financial Technology and Innovation; American Journal of Aquaculture and Animal Science; American Journal of Medical Science and Innovation; International Journal of Sustainable Rural Development; American Journal of Environmental Experience Design.

I wish that EIC will keep on growing in coming years with more impact on the International research community. It has been our privilege to convene this conference. I thank the support of all authors, reviewers, Conference Secretariat, office bearers, and everyone who make this conference successful. Our sincere thanks, to the conference organising committee and international program committee.



Professor Md Roshidul Hasan
Convener
Organizing Committee
E-Palli International Conferences (EIC)
Kuala Lumpur, Malaysia, 2022

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PROGRAM SCHEDULE

PROGRAM SCHEDULE OF EIC 2022 (STEM)

23 DECEMBER 2022 (FRIDAY), MALAYSIA

MORNING SESSION

Time		Activities		Place
8:00-8:30		Registration		Front desk
8:30-8:45		Snacks and Tea		Cafe
8:45-9:00		**Introductory Speech - Ms Dipika Roy**		Jasmin Room
9:00-9:30		**Welcome Speech - Convener, Organizing Committee**	Open for all participants	Jasmin Room
9:30-10:00		**Keynote Speech - Professor Joyashree Roy**		
10:00-10:20		**Keynote Speech - Sonia Bashir Kabir**		
10:20-10:40		HIGH TEA		Hotel Cafe
10:40-10:50		**Bridging Session & Chair - Dr. Jayanta Choudhury**		Jasmin Room
10:50-11:00	1	**Paper ID: ICASE-196** Paper Title: KrishokBot: An Intellectual Agent for Farmers Presenter's Name: Dr. Md. Alam Hossain	Virtual	ICASE
11:00-11:10	2	**Paper ID: ICASE-160** Paper Title: Decision Support System for Agriculture: Crop Disease Recognition and Classification Through an Optimize Convolution Neural Network (CNN) Presenter's Name: Mostafijur Rahman Akhond		
11:1-11:20	3	**Paper ID: ICSTS-124** Paper Title: An Overview for the Potentials of Additive Manufacturing Polymers Recycling Project in Egypt Presenter's Name: Heba Fahmy		ICSTS
11:2-11:30	4	**Paper ID: ICASE-308** Paper Title: Isolation and Identification of Putative Probiotic Bacteria from Fish Gut and Evaluation of Their Antibiotic Properties Presenter's Name: Bishwajit Karmakar Sunny		ICASE
11:3-11:40	5	**Paper ID: ICASE-87** Paper Title: Performane Evaluation and Optimization of Vaccum Marination Process for Fresh and Frozen Sole Fish Presenter's Name: Muhammad Umar		
11:4-11:50	6	**Paper ID: ICASE-257** Paper Title: Biocontrol of Foot and Root Rot Disease of Groundnut (Arachis Hypogaea) By Dual Inoculation with Rhizobium and Arbuscular Mycorrhiza Presenter's Name: Mominur Rahman		

Time	Activities			Place
11:5-12:00	7	**Paper ID: ICASE-96** Paper Title: Effect of Different Weed Leaves Extract on Phytopthora Capsici Causing Cilli Root Rot Presenter's Name: Rajeev Kumar	Virtual	ICASE
12:0-12:10	8	**Paper ID: ICASE-265** Parer Title: Analysis of Japa Interest Among CSC PG Students of University of Ibadan Nigeria Presenter's Name: Christianah Titilope Oyewale		
12:1-12:20	9	**Paper ID: ICISE-211** Paper Title: An Efficient Approach to Recognize Facial Expression Presenter's Name: Prof. Dr. Rashed Mustafa	In-Person (Jasmin Room)	ICISE
12:2-12:30	10	**Paper ID: ICISE-148** Paper Title: Synthesis, Characterisation and Comparative Study of Hydrogel and Nanogels of Psyllium Presenter's Name: Suman Kumar	Virtual	
12:3-12:40	11	**Paper ID: ICISE-132** Paper Title: Novel method for Extraction of Lignin Cellulose & Hemicellulose from Pinus roxburghii nee-dles Presenter's Name: Tilak Raj		
12:4-12:50	12	**Paper ID: ICISE-150** Paper Title: Analyzing interactive architecture as an application to a post-pandemic situation in the context of Dhaka Presenter's Name: Rabaya Nusrath Niva		
12:5-13:00	13	**Paper ID: ICISE-88** Paper Title: Biogas; An Alternative Energy Source for Domestic use and small scale industries in Nigeria Presenter's Name: Fortune		
13:0-13:10	14	**Paper ID: ICISE-300** Paper Title: Time domain approach for rolling element bearing fault detection and diagnosis in vibration monitoring Presenter's Name: Chahinez Beldjaatit		
13:10-13:20	15	**Paper ID: ICISE-325** Paper Title: Trend Analysis of Researches in Ethiopian Construction Industry Presenter's Name: Elias Nezif		
13:20-13-30	16	**Paper ID: ICISE-221** Paper Title: Landmark and Tourist Spots Using Augmented Reality Presenter's Name: Ram Eujohn J Diamante		
13:30-14:30		**Lunch Break**		Hotel Cafe

AFTERNOON SESSION				
Time	**Activities**			**Place**
Chair - Co-Convener, Organizing Committee				
14:30-14:40	17	**Paper ID: ICBB-188** Paper Title: A Study on the Therapeutic Effect of 5-Azacytidine to Attenuate the Ramifying Repercussions of Ischemia Reperfusion Injury on Mitochondrial Molecular Machinery Presenter's Name: Vasisht Yegneshwaran	Virtual	ICBB
14:40-14:50	18	**Paper ID: ICLSI-99** Paper Title: Cat-Complementary and Alternative Therapies Presenter's Name: Prem Adheesh Lekhi	In-Person (Jasmin Room)	ICLSI
14:50-15:00	19	**Paper ID: ICLSI-165** Paper Title: Solid Waste Disposal Scenario of Three Ladies' Halls of The Chittagong University Campus in Chittagong, Bangladesh Presenter's Name: Lailun naher	Virtual	
15:00-15:10	20	**Paper ID: ICLSI-304** Paper Title: Laboratory Diagnosis of Novel Human Coronavirus (SARS-Cov-2) Infections-A Review Presenter's Name: Aswathy C Ashok		
15:10-15:20	21	**Paper ID: ICGT-267** Paper Title: GIS and the Future of Humanities – An Archeological Case Study in Madurai, India Presenter's Name: Sailaja G G	Virtual	ICGT
15:20-15:30	22	**Paper ID: ICSTS-152** Paper Title: Design and Implementation of Secure IoT Architecture for High Tech Buildings Presenter's Name: Muhammad Ismail Kashif	Virtual	ICSTS
15:30-15:55		HIGH TEA		Hotel Cafe
15:55-16:05	23	**Paper ID: ICSDE-289** Paper Title: Golf Path Trainer – A New Innovation for Teaching Swing Plane, Club Path, and Contact Impact Presenter's Name: Dr. H.Y. Tang	In-Person (Jasmin Room)	ICSDE
16:05-16:15	24	**Paper ID: ICSDE-344** Paper Title: Promoting the Usage of Eco-Friendly Tertiary Packaging: A Market Research on the Perceived Behavior of Filipino Consumers Based on Sustainability Factors Presenter's Name: Emmanuel J Dotong		

Time	Activities			Place
16:15-16:25	25	**Paper ID: ICYGWE-288** Paper Title: Innovation of Golf Training Aids for Improving Putting: Golf Putting Trax Presenter's Name: Brenden Tang	In-Person (Jasmin Room)	ICYGWE
16:25-16:35	26	**Paper ID: ICYGWE-122** Paper Title: 'Women Entrepreneurs'- Contributions Through the Digital Marketplace: In the Economy of Bangladesh Presenter's Name: Farjana Akter Ripa	Virtual	
16:35-16:45	27	**Paper ID: ICEBI-134** Paper Title: The Impact of Output Gap and Oil Price Volatility on Inflation in Bangladesh Presenter's Name: Riva Das Gupta	Virtual	ICEBI
16:45-16:55	28	**Paper ID: ICEBI-232** Paper Title: Challenges in the Receiving and Inspection of Supplies and Equipment in an International Organ-ization Presenter's Name: Maricel Co		
16:55-17:00		Closing Remarks – Member Secretary, Organizing Committee		Jasmin Room
		End of Day 1		

PROGRAM SCHEDULE OF EIC 2022 (BAS)

24 DECEMBER 2022 (SATURDAY), MALAYSIA

MORNING SESSION

Time		Activities		Place
9:30-9:40		Introductory Speech - Ms Dipika Roy	Open for all conferences	Virtual
9:40-10:00		Welcome Speech - Convener, Organizing Committee		
Chair - Dr. Mohammad Abdul Matin Chowdhury				
10:00-10:15	1	**Paper ID: ICSET-264** Paper Title: University 4.0: Digital transformation of higher education Evolution and stakes in Morocco Presenter's Name: Knidiri	Virtual	ICSET
10:15-10:30	2	**Paper ID: ICMRI-250** Paper Title: Multiple-Drug Resistant Shiga Toxin-Producing E. coli in Raw Milk of Dairy Bovine in Khyber Pakhtunkhwa, Pakistan Presenter's Name: Safir Ullah	Virtual	ICMRI
10:30-10:45	3	**Paper ID: ICMRI-249** Paper Title: Bangladeshi Medicinal Plants Classification using CNN Presenter's Name: Abdul Hasib Uddin		
10:45-11:00	4	**Paper ID: ICGECC-283** Paper Title: The Adoption of Biodiesel as a Sustainable Approach a Systematic Literature Review Presenter's Name: Basuki Winarno	Virtual	ICGECC
11:00-11:15		Closing Remarks - Member Secreatary, Organizing Committee		Virtual
End of Day 2				

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KRISHOKBOT: AN INTELLECTUAL AGENT FOR FARMERS

Md. Asfaqur Rashid[1], Md. Alam Hossain[1*], Md. Taslim[1], and Md Nasim Adnan[1]

Crop disease treatment is vital for improving agricultural production and crop yields. The early prevention and treatment of the disease is very helpful to reduce crop damages. However, traditional crop disease treatment is much costly and time consuming to counsel with an agriculturist. In Bangladesh, most of the farmers are unaware of pest control and disease treatment. In order to overcome this problem, KrishokBot is deployed. It is a smart agent that makes remote interaction with farmers to provide pest and disease related solution using natural language processing. KrishokBot is a Machine Learning based virtual assistant that can respond to simple questions concerning pests and disease that affect rice production via Bengali language. The datasets have been collected from various Bangladeshi agricul ture-based websites to train the KrishokBot, which includes categories, patterns, and responses. A deep neural network has been used to determine which category the user's message belongs to, and then a response is generated. For this, some tools are used such as Natural Language Tool Kit, Keras API, Tensorflow, Android SDK, Android Volley, Heroku, etc. This proposed idea offers great potential for excellent performance with approximately 85 percent accuracy, where user Interface has been developed by android application with both audio and text-based features to provide better interaction. The results prove that the bot is reliable for guiding the treatment of crop disease.

Keywords: KrishokBot, Agriculture, Android, Machine Learning.

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DECISION SUPPORT SYSTEM FOR AGRICULTURE: CROP DISEASE RECOGNITION AND CLASSIFICATION THROUGH AN OPTIMIZE CONVOLUTION NEURAL NETWORK (CNN)

Md. Taslim[1], Md Shafiuzzaman[1], Mostafijur Rahman Akhond[1*], and Md. Alam Hossain[1]

Crop leaf diseases cause great damage to agriculture, causing significant crop losses in Bangladesh every year. Crop economic loss can be significantly reduced by accurately recognizing and classifying crop leaf diseases. This study developed an optimized Convolution Neural Network (CNN) model to recognize and classify crop leaf diseases. The proposed dataset of this study was collected from the field with the help of Bangladesh Agriculture University (BAU) and Bangladesh Agricultural Research Institute (BARI) experts. This dataset includes 5 types of crops (bean, cauliflower, paddy, potato, and tomato), 21 types of diseases, and 14624 sample images. The Adam optimizer is used as an optimizer in this study. Our developed CNN model can recognize and classify crop species and crop leaf diseases with the best accuracy of 99.67% and 96.55%, respectively. Furthermore, the proposed model is more accurate than the previous study.

Keywords: Crop Leap Disease, CNN, Crop Species, Disease Classification, Species Classification.

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AN OVERVIEW FOR THE POTENTIALS OF ADDITIVE MANUFACTURING POLYMERS RECYCLING PROJECT IN EGYPT

Heba M.Fahmy[1*], May M. Youssef[2] , and Essam A. Soliman[3]

Additive manufacturing is a star-rising technology around the globe. It satisfies key needs in different fields of interest on a global scale. For both ongoing industrial revolutions, it is considered an enabler as well as for achieving certain Sustainable Development Goals. Regarding the manufacturing sector, the technology serves well for different delicate fields like aerospace, automotive and medicine. Polymers are amongst the wide range of materials that are utilized in additive manufacturing. They provide indispensable mechanical properties in different fields as they possess light weight with high strength and toughness. The existence of polymers in the form of waste is massive, especially after the outbreak of COVID-19. The calls for sustainable development are global. Exploitation of polymer wastes as a feedstock material for additive manufacturing can be considered an opportunity to be seized by Egyptian manufacturers. Such that producing new products, reducing wastes and costs. These piles of waste may now be viewed as wealth. Under the umbrella of the current reforms and developments taking place in the country this can be called upon to be a national project. The paper presents an overview for the opportunity of establishing such a national recycling project in Egypt that depends on 3d printing.

Keywords: Additive Manufacturing, Egypt Vision 2030, Polymers waste, Recycling Products Sustainability.

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ISOLATION AND IDENTIFICATION OF PUTATIVE PROBIOTIC BACTERIA FROM FISH GUT AND EVALUATION OF THEIR ANTIBIOTIC PROPERTIES

B. K. Sunny[1*], M. M. Rahman[2], D. R. Gupta[2]

Probiotic bacteria play a vital role in the host animal's growth acceleration, enhancing digestion capabilities, and defense against diseases. Though the study of gut probiotic bacteria is a trending topic in Biology, research on fish gut probiotic ba1cteria has not flourished. In this regard, the present study was intended to isolate and identify putative probiotic candidate isolates from the fish gut and evaluate the isolates' inhibitory effects against various fish pathogens. The bacterial isolates were isolated from the gut of four Indian Major Carp fish species namely Rohu (Labeo rohita), Catla (Catla catla), Mrigal (Cirrhinus cirrhosus), and Bata (Labeo bata) collected from natural water bodies. Among the collected isolates, thirty isolates were randomly selected from MRS Agar (De Man, Rogosa, and Sharpe agar) and then cultured in NA (Nutrient Agar) culture plates for further studies. Then the preliminary phenotypic characterization of the isolates was done. In vitro antimicrobial activity of these isolates against ten fish pathogenic strains belonging to four genera viz., Aeromonas spp., Pseudomonas fluorescens, Enterococcus faecalis, and Stenotrophomonas maltophilia were done following the agar well diffusion assay. Nineteen out of thirty isolates showed antimicrobial activity against the fish pathogens. Among these, isolates C102L, R102L, M102L, M101L, and M201L showed remarkable antibacterial activity against most of the fish pathogens whereas isolate B102L showed the highest antibiotic activity. The 16S rRNA gene sequence homology of three selected bacterial isolates was done for molecular identification, on which the isolates M201L, R102L, and C102L were identified as Lactococcus lactis, Lactococcus garvieae, and Kurthia zopfii, respectively. Identification of these probiotic bacteria will contribute to understand the role of probiotics in host physiology and feed industries. Hence, further study on the gut probiotic bacteria of other common fishes of Bangladesh should be done.

Keywords: Fish Gut Probiotic, Antimicrobial activity, Lactococcus lactis, Lactococcus garvieae, Kurthia zopfii.

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PERFORMANE EVALUATION AND OPTIMIZATION OF VACCUM MARINATION PROCESS FOR FRESH AND FROZEN SOLE FISH

Muhammad Umar[1*], Qasim Ali[1], and Muhammad Amir[1]

The major problem facing the fish processing industry is reducing the marination process time and increasing the uptake of marinade. Previously, a marination bath has been utilized for this purpose with different combinations of acid and salt, which causes physiochemical changes in fish texture. The vacuum marination method seems to be a good way to solve this problem. In this study, the effect of the vacuum marination process was studied on the marination of sole fish. Two varieties of fish (fresh and frozen) and three levels of time (10, 20 and 30 minutes) were studied for their effect on marinade uptake. The marinade was used in the ratio of 1.2:10 spices to meat, respectively. Fresh samples were weighted, vacuum packed, and stored at 4–7 0Celsius, whereas frozen samples were stored at -20 0C for 24 hours prior to marination and thawed at room temperature. After marination, percentage uptake, retention, and cooking loss of the marinade were calculated. It was concluded from the yield of marinated products that about 80% of marination takes place in the first 10 minutes of the process. After 10–20 minutes, there was no significant difference ($p>0.05$), and only 1–2% of the marinade was consumed. The frozen samples show significantly ($p\leq 0.05$) higher yields and marinade uptake. After marination, the samples were stored at 0–4 0C and fried in vegetable oil until the center reached 70 0C. Cooking loss for this process was non-significant for both varieties of fish as it depends on the water-holding capacity of the meat, which remains the same for both cases. The use of vacuum marination reduced the marination time significantly from 4-6 hours to 10 minutes, and marinade uptake was improved. This process can be used as an alternative to traditional marination techniques.

Keywords: Vacuum-marinator, Fish, Frozen, cooking loss, marinade uptake

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BIOCONTROL OF FOOT AND ROOT ROT DISEASE OF GROUNDNUT (Arachis hypogaea) BY DUAL INOCULATION WITH RHIZOBIUM AND ARBUSCULAR MYCORRHIZA

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The present study was carried out to investigate the potential of AM (Arbuscular mycorrhiza) fungi alone and in combination with bioinoculants i.e., Rhizobium to find out the best combination on dry biomass, nodulation, colonization, and yield, along with their biocontrol against groundnut foot and root rot caused by Sclerotium rolfsii. The study was carried out under pot culture conditions in the net house of the Soil Science Division, Bangladesh Agricultural Research Institute, Joydebpur, Gazipur in 2020 and 2021. The experiment was designed in RCBD with eight treatments and four replications. Peat-based rhizobial inoculum (BARI RAh-801) was used in this experiment. Soil-based AM inoculum containing approximately 252 spores and infected root pieces of the host plant was used in pot-1. The treatments were Arbuscular mycorrhiza (AM), Rhizobium, AM+Rhizobium, Sclerotium rolfsii, Sclerotium rolfsii+AM, Sclerotium rolfsii+Rhizobium, Sclerotium rolfsii+AM+Rhizobium and Control. Dual inoculation (AM+Rhizobium) significantly increased dry biomass, nodulation, colonization, yield, and yield attributes of groundnut compared to single inoculation or other treatments. The result showed that dual inoculation (AMF+Rhizobium) increased nut yield (59.61% in 2020 and 26.32% in 2021) and stover yield (23.21% in 2020 and 33.74% in 2021) compared to control. On the contrary, Sclerotium rolfsii+AMF+Rhizobium increased nut yield (65.50% in 2020 and 52.94% in 2021) and stover yield (36.45% in 2020 and 99.35% in 2021) compared to only Sclerotium rolfsii treatment. Therefore, AMF species and its combination with rhizobial inoculum were significant in the formation and effectiveness of AM symbiosis. They also increased yield and reduced the incidence of foot and root rot disease in groundnut plants.

Keywords: Biocontrol, biomass, nodulation, nut yield and root colonization

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EFFECT OF DIFFERENT WEED LEAVES EXTRACT ON PHYTOPTHORA CAPSICI CAUSING CILLI ROOT ROT

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Herbal fungicides are mostly used to manage plant disease because of their ecofriendly nature and cost effectiveness. The present investigation focuses on the antifungal activity of some weed extracts viz., Achyranthes aspera, Parthenium hysterophorus, Cannabis sativa, Calotropis gigantean, Chenopodium album, Cynoden dactylon, Argemone maxicana, Ageratum conyzoides, and Lantana camera against soil-borne phytopathogenic fungi causing different types of diseases. Than out of 9 tested weed the extracts of Cannabis sativa, Ageratum conyzoides and Argemone maxicana, Parthenium hysterophorus were found most effective against phytopathogenic fungi, Phytopthora capsici & Fusarium. From the above findings first concluding that methanol extracts of Cannabis sativa, Argemone maxicana, and acetone extract of Ageratum conyzoides, can be used for the development of novel broad spectrum herbal fungicidal formulations after in vivo and field trial.

Keywords: Fungicides, Weed leaves extract, Phytopthora capsici, Fusarium.

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ANALYSIS OF JAPA INTEREST AMONG CSC PG STUDENTS OF UNIVERSITY OF IBADAN NIGERIA

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Japa means to leave an environment quickly. There is a long tradition of people moving from one location to other for reasons best known to each individual, such as people commuting from one location to other which can be within the same nation or internationally. This has made some nations to be more populated than the other, some have increased in power, some increased in number. The increase in the population of a community can either add positively or negatively to the economy, crime rate etc of that community. It is important to know the interests in the heart of the masters' students of University of Ibadan to consider leaving Nigeria as quick as possible especially after the long strike by the Academic Staff Union of Universities (ASUU), Nigeria and the hardship in the country. Through the use of Microsoft Power BI software, this article analyzed and evaluated the interest rate of Japa among the current final year Computer Science Masters students of University of Ibadan Nigeria with sample of the students in the class. From the available clustered data through interviews and survey questionnaires, the analysis addressed the interest rate of the students to quickly leave the country, the reason they want to leave Nigeria and the effects on the country Nigeria.

Keywords: Commuting, Japa, Microsoft Power BI analytics, University of Ibadan students.

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FACIAL EXPRESSION RECOGNITION USING EXTENDED CNN

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Facial expression recognition is an important problem in the field of computer vision. Computer vision is an interdisciplinary scientific field that deals with how computers gain high-level understanding from digital images. The facial expression recognition process formation of three stages they are face detection, feature extraction, and recognizing expression. The idea of expression recognition is helpful for people with physically disabled like hard of hearing and dumb to identify human facial expressions through the help of image processing and computer vision. The system can identify seven several facial expressions: anger, disgust, fear, neutral, happy, sad, and surprise. In the end, the design and implementation of the system are explained. The proposed method is a custom Deep Convolutional Neural Network (DCNN) model with more CNN layers and ten-fold cross-validation which is used to train and test various facial expression images with Google Colab. This paper worked on Kaggle facial expression dataset. The better accuracy of the model acquired is 85.0%, precision 0.83, recall 0.83, and f1-score 0.83 on the testing dataset.

Keywords: Convolutional neural network, Confusion Matrix, Cross-validation, deep learning, Facial expression, Feature extraction.

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SYNTHESIS, CHARACTERISATION AND COMPARATIVE STUDY OF HYDROGEL AND NANOGELS OF PSYLLIUM

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Natural polysaccharides are being explored as the matrices for attaining speciality materials for pharmaceutical, medicinal and environmental applications via chemical modification such as grafting. Psyllium polysaccharide-based hydrogels and nanogels have potential biomedical and water purification applications due to their advantageous properties such as stimulus responsiveness, biocompatibility, target drug delivery and stability. The present study aims to synthesise hydrogel and nanogels of psyllium and attain comparative data for the two to undermine their potential applications. Psyllium– *cl–N,N*–MBAm–poly(AAm) hydrogel (Psy-MBAm-AAm – hg) and Psyllium– *cl–N,N*–MBAm–poly(AAm) nanogel (Psy-MBAm-AAm – ng) were synthesised by grafting acrylamide (AAm) onto psyllium using ammonium persulphate (APS) as a free radical initiator in a redox system where N, N-methylene bisacrylamide acted as a crosslinker. The comparative study of synthesised gels was carried out by studying swelling characteristics at acidic and basic pH (7 and 4) and at varied temperatures for both matrices. The synthesised hydrogel and nanogels were subjected to characterisation by Fourier transform infrared spectroscopy (FTIR), Field Emission Scanning Electron Microscopy (FESEM), and Zeta Potential Analysis to get evidence for successful synthesis and nanogel formation.

Keywords: Hydrogel, Nanogel, Psyllium, Swelling

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NOVEL METHOD FOR EXTRACTION OF LIGNIN CELLULOSE & HEMICELLULOSE FROM Pinus roxburghii NEEDLES

Tilak Raj[1*], Rohini Dharela[1], and Ghanshyam S. Chauhan[2]

Lignocelluloses are becoming a major area of attraction for the researchers for their sustainability and cost effectiveness. The ease of functionalization of these matrices along with remarkable physical and chemical properties and tunable functional sites, make them incredible materials for tissue engineering and drug delivery among other applications. The present study focuses on the extraction of biomaterials lignin, cellulose and hemicellulose from the Pinus roxburghii (PR) needles following a single source procedure. A green chemistry approach is followed ensuring minimum wastage with maximum output from the raw material.The Pinus roxburghii (PR) needles were collected from the local area, washed thoroughly, dried in the oven at 45°C for few days and grounded to powder. The PR powder was subjected to treatment with acetic acid: formic acid in the ratio of 1gm/10ml mixture at different concentration to study the yields, for 1hr at low temperature followed by 3hrs treatment at 110°C. The concentrated mother liquor thus obtained was filtered, diluted and left undisturbed for 48h. Lignin precipitates obtained were separated and dried in oven at 30°C. Subsequently, the residue from the extracted lignin was washed to neutralise the pH and dried in oven. By using 5% NaOH reflux treatment at 90-110°C for 3h, hemicellulose was recovered from the pre-treated pine needles mother liquor from which the lignin had been extracted. The mother liquor was treated with ethanol and acetic acid to precipitate hemicellulose in the freezer. The residue obtained after the removable of hemicellulose was washed again to and subsequently bleached to get cellulose. An excellent yield of the desired products was obtained. The extracted products were subjected to characterization studies namely FTIR and HRMS etc to get evidence for successful extraction. The analysis revealed that the PR leaves contained about 1.5gm% to 3.0gm% Lignin, 15-30wt% Hemicellulose and rest is Cellulose. Further, aim is to use the extracted material to prepare the nano-hydrogels for the drug delivery and other applications.

Keywords: Cellulose, Characterization, Extraction, Hemicellulose, Lignin

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ANALYZING INTERACTIVE ARCHITECTURE AS AN APPLICATION TO A POST-PANDEMIC SITUATION IN THE CONTEXT OF DHAKA

Rabaya Nusrath Niva[1*], Jannatul Ferdous Binti[2]

The COVID-19 pandemic in 2020 has resulted in an increase in domestic violence. People must spend the majority of their time indoors, which forces them to use technologies like smartphones. Many individuals have gone through periods of unemployment, economic hardship, and faith-damaging family ties. In these circumstances, people had no choice but to engage with the virtual environment. In Dhaka, the rooftop was used only as a playground and a location for outdoor recreation during this particular incident. Interactive architectural installations modeled after residential neighborhoods may play a significant role in encouraging a sense of community belonging, particularly for young and elderly people. Residents may use their rooftops and connect with collaborative architecture that uses all of their senses to communicate with people. This kind of interactivity could be used to combat the pandemic melancholy by mounting interactive architecture on the roof. This article discusses a potential interactive architecture that may be built on the rooftop and foster community spirit in order to aid the impoverished community during or after a pandemic. This article reviews many types of research and offers some recommendations for an interactive design that might be employed in the future to promote neighborhood activities, giving the depressed population a chance to participate in a community within the home.

Keywords: Interactive Architecture, Pandemic (COVID-19), Community, Rooftop, Community Interaction

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BIOGAS; AN ALTERNATIVE ENERGY SOURCE FOR DOMESTIC USE AND SMALL SCALE INDUSTRIES IN NIGERIA

Fortune Riagbayire[1]

In the world today, there is a lot of waste that is being generated on a daily basis. From Domestic wastes to kitchen wastes, poultry and livestock not excluded. Due to the current energy crisis and climate change, the country could benefit greatly from an alternative energy source which is eco-friendly, renewable, sustainable and efficient. This alternative energy source is called ‘’Biogas”. Biogas is formed by anaerobic digestion of organic materials. Biogas can be produce from kitchen wastes, cow dungs, poultry, pig feaces, etc. These wastes from the Bio-digester can later be treated as a by-product to give a nutrient rich organic fertilizer that can be used in farmlands and gardens. Survey was carried out on Household-scale Bio-gas Digester unit in selected countries. This study shows effectively the need for conversion of organic wastes in order to give an alternative source of energy and if utilize properly can be used as a tool to reduce greenhouse gases emissions, replacing fossil fuels, and also serve as a compliment to Liquefied Petroleum Gas (LPG). Through the various Data Collected, it was shown that the performance of Bio-gas was superior to other sources of domestic cooking like LPG, Charcoal, Fuel-wood, Kerosene, etc. the following measures/criteria were used as a basis of comparison: Efficiency & fuel use, Indoor Emissions, Safety, cooking time, Environment and Health. The result of this research can be used by government, institution and various entities to serve as an aid on the effective use and implementation of Bio-gas in the industries and various homes. More also, the research also looks at how Bio-gas provides job employment opportunities from the production of livestock feed to the maintenance of various Bio-digester units. Also present employment figures in leading regions were also analyzed and it shows an increase in job rate as the Bio-gas is being used for cooking and other applications.

Keywords: Alternative Energy Source, Anaerobic Digestion, Biogas, Greenhouse Gases, Organic waste

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TIME DOMAIN APPROACH FOR ROLLING ELEMENT BEARING FAULT DETECTION AND DIAGNOSIS IN VIBRATION MONITORING

Chahinez Beldjaatit[1*], T. Sebbagh[1], and H.Guentri[2]

One of the most crucial techniques for equipment maintenance is vibration condition monitoring. This is done to identify failing components and improve the machine's safety and reliability. The health of the bearing has an extensive impact on the life of the rotating machine. This is because bearings are the most vital and critical part of rotary equipment. The vibration signal analysis can give us a better understanding of various defects occurring in mechanical systems. The current work focuses on the fault detection of ball bearings using time domain analysis in vibration monitoring. Several statistical features are calculated in this type of analysis for three bearing conditions essentially: healthy, inner race fault, and ball fault condition. When the results from both healthy and defective conditions are compared, it becomes clear that default conditions result in an increase in the majority of the statistical parameter values. The effect of changing the fault diameter and the load on the bearing state is observed through a variation of statistical parameter values. The results show that time features can clearly distinguish between all bearing situations.

Keywords: Condition monitoring, Fault analysis, Rolling element bearing, Time domain analysis.

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TREND ANALYSIS OF RESEARCHES IN ETHIOPIAN CONSTRUCTION INDUSTRY

Elias NEZIF[1*]

This study identifies the research trends of the Ethiopian construction industry in the last twenty years. The paper aims to search, categorize, and analyze the research trend of partnering related studies in construction using a desktop search method from several construction-related journals. A series of related articles from partnering journals are viewed based on searching and categorizing published journal articles from 2003 to 2022. The number of publications in the field with a good reputation was used to determine the most influential journals. A critical examination of the conference revealed that categorizing and evaluating, as well as the use of partnering, were common in construction industry research, while quantitative research techniques were used to analyze research trends in the industry. From numerous article reviews, future research areas were forecasted.

Keywords: Ethiopian construction industry: publications: research trend: survey analysis.

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LANDMARK AND TOURIST SPOTS USING AUGMENTED REALITY

Ram Eujohn J. Diamante[1*]

It takes a lot of time to build a system design like this, but why not use the rising technology to build an Augmented Reality design? Using the appropriate technology can help minimize the time needed to make one. It can also show other people that society is catching up in terms of new applications and technologies. One example is Augmented Reality (AR), a technology that produces a mixed experience by superimposing digital data on a real-time image of the physical environment. Augmented Reality has now progressed to the point where real-time applications are considered and needed.

Consequently, this study uses Augmented Reality to show the 3D model of the selected LandmarkLandmark and the Municipality of Dumangas, Iloilo, by pointing the Android mobile device to the provided Landmark marker. However, synthetic elements must be rendered and aligned in the scene accurately and visually acceptable way. To address these issues, real-time, robust, and efficient model-based tracking was proposed for a mobile camera - a virtual map for the Municipality of Dumangas, Iloilo. This would help the Municipality of Dumangas to promote their tourist attraction and the people who want to locate different tourist spots in Dumangas, Iloilo. This application would also provide the user with information about the specified Landmarks. The Landmark Tourist Spots Using Augmented Reality would test the user to know the Landmark in Dumangas, Iloilo.

Keywords: Augmented Reality, Tourism, Augmented Reality Benefits, Mobile Applications, Location Awareness.

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A STUDY ON THE THERAPEUTIC EFFECT OF 5-AZACYTIDINE TO ATTENUATE THE RAMIFYING REPERCUSSIONS OF ISCHEMIA REPERFUSION INJURY ON MITOCHONDRIAL MOLECULAR MACHINERY

Vasisht Yegneshwaran[1*], Priyanka N Prem[1], Sri Rahavi Boovarahan[1], and Gino A Kurian[1,2]

5-Azacytidine is a hypomethylating agent that has for long been used in cancer therapy due to its ability to inhibit the protein DNA methyltransferase responsible for hyper-methylating DNA strands. Recently, studies involving in vitro, ex vivo, and in vivo experiments have assessed the cardioprotective effects of 5-Azacytidine during myocardial ischemia-reperfusion injury (IRI). However, the effect of this compound in restoring the damage induced to mitochondrial molecular machinery during IRI has not yet been explored. Understanding this would help us analyze the ways through which mito-targeted therapeutics can be used. The purpose of this study is to investigate the therapeutic impact of 5-Azacytidine, as DNA methylation is a very common epigenetic modification observed during IRI. Furthermore, the protective effect of the compound in alleviating the damage induced to mitochondria during IRI can be identified, as DNA methylation can leave a direct impact on the mitochondrial genes as well. An isolated mitochondria model will be used to determine the effects of 5-Azacydine on mitochondrial molecular machinery as the capacity to generate DNA, RNA, and proteins are preserved in isolated mitochondria. In this study, we focus on the mechanisms of mitochondrial replication, and translation to understand the effect of 5-Azacytidine on the IRI affected mitochondrial system. Mitochondrial dysfunction is also another key turn of events that happens during IRI. The role of 5-Azacyidine in preserving the functionality is also being assessed in our research. The findings of these experiments would help us determine the plasticity the compound imparts on mitochondrial molecular mechanism's integrity and function post-induced IRI.

Keywords: Mitochondria, Ischemia-Reperfusion Injury, In-vitro Replication, Mitochondrial Dysfunction.

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CAT-COMPLEMENTARY AND ALTERNATIVE THERAPIES

Prem Adheesh Lekhi[1*]

Allopathy has been around for 100 odd years now with great success in emergency and acute illness. The ancient sciences categorized in complementary and alternative therapies in medicine have been there before allopathy ;gaining popularity in very chronic diseases, and the failing of allopathy in acute illness ;along with a paradigm shift in human behaviour and acceptance level of alternative medicine as a great complement as well as its uses without side effects,to say the least. The western world, as always, is sceptical to any other science; other than modern science;surprisingly; the modern times have seen, acceptance level of complementary and alternative sciences;therapies;medicine to the highest level.

Keywords: Cat therapies, Allopathy, Chronic Disease.

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SOLID WASTE DISPOSAL SCENARIO OF THREE LADIES' HALLS OF THE CHITTAGONG UNIVERSITY CAMPUSE IN CHITTAGONG, BANGLADESH

L. Naher[1*], and M. F. Ahsan[1]

Solid wastes disposed from three ladies' halls (Shamsun Nahar, Pritilata and Desnetri Begum Khaleda Zia) of Chittagong University campus, Chittagong, Bangladesh, were identified and classified from June 2012 to March 2013. Data were collected from kitchen, dining, canteen, bathroom, and premises of these three halls. Overall, 18,505.0 kg wastes were disposed from different sources and among them 10,406.0 kg (i.e., 56.24%) were from kitchen, 1,218.5 kg (i.e., 6.59 %) from dining and canteen, 1,570.5 kg (i.e., 8.49 %) from bathroom and 5,310.0 kg (i.e., 28.68 %) from others sources. On an average each student of these 3 ladies halls disposed 0.029 kg waste per day that gave a total of 8.520 kg wastes during the 10 months of study period. Waste eating animals from the dumping sides were recorded.

Keywords: Chittagong University, Dispose, Ladies Halls, Solid Waste, Wastes' Feeding Animals.

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LABORATORY DIAGNOSIS OF NOVEL HUMAN CORONAVIRUS (SARS-COV-2) INFECTIONS-A REVIEW

Aswathy C Ashok[1*], and R. Harish[1]

COVID-19 is a pandemic, highly contagious infectious disease caused by the Severe Acute Respiratory Syndrome Corona virus-2 (SARS-CoV-2). The World Health Organization has declared the ongoing outbreak a global public health emergency. This disease has spread rapidly and affected millions of people worldwide. Currently, there are no specific clinical signs or symptoms of SARS that can be used to differentiate it from other causes of community- or hospital-acquired viral pneumonia. Accurate diagnosis of cases holds the key to managing any pandemic through identification, isolation, and treatment of patients while defining the epidemiology of the pathogen. Because an increasing number of asymptomatic symptomatic individuals must be tested for COVID-19, a safe and efficient screening system is required. The diagnosis of suspected cases is presently confirmed by nucleic acid assays with real-time PCR using respiratory samples. On the other side, serological tests are comparatively easier to perform, but their utility may be limited by their ease of performance and the fact that antibodies appear later in the disease course. This review is aimed at summarizing the currently available information on different methods used for screening and diagnosing COVID-19 infections.

Keywords: SARS-CoV2, RTPCR, immunological rapid assay

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GIS AND THE FUTURE OF HUMANITIES – AN ARCHEOLOGICAL CASE STUDY IN MADURAI, INDIA

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The "Spatial Turn" is an academic trend that emphasises the importance of studying place and space in the Humanities and Social Sciences. In this "Spatial Turn," researchers are particularly interested in looking into how the terrain has evolved. For one thing, the landscape acts as a bridge between the past and present, linking geographical locations with their respective eras. Studying a "Spatial Turn" necessitates looking at history, literature, and mapping all at once. Madurai City, in the state of Tamil Nadu, is home to several important Hindu and Buddhist sites, including the Meenakshi Amman Temple, the Thirumalai Nayakkar Palace, and the Rani Mangammal Palace. With the help of a technique called "Mapping with GIS," this article aims to investigate the "Spatial Turn" alongside the Landscape alteration study of these three distinct monuments. It is abundantly clear that the geo-cultural and geo-political actions that led to the demolition, destruction, and reconstruction of the buildings of those sites in the Madurai region were largely responsible for the "Spatial Turn" along those monuments.

Keywords: GIS, Monuments, Spatial Turn

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DESIGN AND IMPLEMENTATION OF SECURE IOT ARCHITECTURE FOR HIGH TECH BUILDINGS

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IoT platforms set up according to diverse design principles, computing paradigms, technologies, and aims. This has been done for the purpose of making the development of the internet of things (IoT) ecosystem easier and accelerating its pace. In this paper, we offer a survey of the primary examples that are now populating the vast landscape of IoT platforms, as well as a comparison of those examples in light of the IoT-a reference design. In this way, heterogeneous internet of things platforms (both current and future) can be analyzed regardless of their low-level specifications, but only through the lens of those key functionalities and architectural building blocks that enable the interplay among devices, data flow, software, and stakeholders within the IoT ecosystem. This can be done regardless of whether the platform is currently in use or will be in use in the future. In addition to these, security by design—that is, the incorporation of security design principles, technology, and governance at every level—must be incorporated into each and every tier, component, and application in order to reduce the likelihood of cyber-attacks and maintain the integrity of IoT platforms. This is necessary not only for the individual components themselves, but also for all of the components when they are working together as a whole.

Keywords: IoT, Sensors, Router, Switch, Sniffer

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GOLF PATH TRAINER – A NEW INNOVATION FOR TEACHING SWING PLANE, CLUB PATH, AND CONTACT IMPACT

Heen Yeong Tang[1*], Brenden Tang[1] , Chin Ngien Siong[2], and Garry Kuan[3]

Golf is a sport that demand pinpoint accuracy and consistency has always been a challenge for amateur to professional golfers. Golfers often struggle to execute their golf-swing plane consistency during their drive, approach, chip and putt strokes, causing detrimental effects on their golf-swing. The purpose of this study is to innovate a training aid known as the Golf Path Trainer (GPT) for teaching golfers on swing plane, club path and contact im-pact. The GPT consists of a solid base with a swivel point at the base centre to locate and adjust the angle of the swing plane to facilitate the height and length of the club. It is attached to the golfers' alignment sticks, allowing golfers to adjust their swing plane to avoid hitting the sticks. GPT is small, lightweight and portable, requiring only three to four minutes to set up either indoors or outdoors, and can be anchored down with four spikes. It is a reliable, safe, and affordable teaching aid for golfers. The preliminary findings showed that all seven golfers improved their driving distance. In conclusion, GPT could be used for providing immediate and visual feedback to golfers.

Keywords: Golf path training, innovation, golfers, accuracy.

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PROMOTING THE USAGE OF ECO-FRIENDLY TERTIARY PACKAGING: A MARKET RESEARCH ON THE PERCEIVED BEHAVIOR OF FILIPINO CONSUMERS BASED ON SUSTAINABILITY FACTORS

Aaron L. Dena[1], Lyza B. Honrado[1], Princess Mica Lin[1], and Emmanuel J. Dotong[1*]

This paper conceptualises the impact of environment, social and economic factors with regards to the behaviour of Filipino consumers in using and buying sustainable tertiary packaging based on their demographic and behavioural profile. Plastic pollution is one of the main issues that we need to care about especially that 40% of the plastic waste came from packaging. This study employed the method of conducting online survey questionnaires through Google forms to be answered by 450 respondents. The researchers found out that using and buying sustainable tertiary packaging is more accepted by the female consumers both in Metro Manila with the age bracket of 29 years old and below. They are using and buying it very often, especially twice a week. That's why this study was used to develop and refine strategies to promote using and buying sustainable tertiary packaging as an alternative to plastic bags. We have so much power to change the world just by being careful in what we are using and buying in terms of the right packaging.

Keywords: Sustainable, Tertiary Packaging, Purchase Frequency, Packaging Preference

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INNOVATION OF GOLF TRAINING AIDS FOR IMPROVING PUTTING: GOLF PUTTING TRAX

Brenden Tang[1*] , Heen Yeong Tang[1], Chin Ngien Siong[2], and Garry Kuan[3]

Golfers often seen practising on putting green to get the feel for the condi-tions of the greens. Depending on conditions, such as wind and how wet the green is, the ball will roll either more quickly or more slowly. The purpose of this study is to develop a training aid for improving golfers' putting known as the Golf Putting Trax (GPT). GPT is adapted and innovated to provide an ex-cellent visual aid for enhancing alignment, putter path, and starting line. It can be adjusted to consistently strike the ball with the centre of the clubface by adjusting the angle and trajectory. Thus, by using the trainer, it consistent-ly provides instant and accurate visual feedback where stoke is faltering. The GPT is an affordable, small and lightweight training aid that is easy to use. It is also portable, requiring only less than one minute to set up indoors or out-doors. The trainer consists of a sturdy base with putting gates in the middle and a laser beam aimed at the target (Spot on target laser aiming system). By adjusting the width of the gates, golfers can improve their stroke accuracy even further. It has been demonstrated to have a significant impact on put-ting accuracy in golf. According to the preliminary findings, all seven golfers improved their putting performance after using the GPT. In conclusion, GPT can be utilised to enhance the alignment, putter path and start line of the golfers.

Keywords: Golf putting trax, putting, amateur golfers, training aids.

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'WOMEN ENTREPRENEURS'- CONTRIBUTIONS THROUGH THE DIGITAL MARKETPLACE: IN THE ECONOMY OF BANGLADESH

Farjana Akter Ripa[1*], Naziat Mustari[2], Nabila Azam[3], Jannatul Mawa Mithila[4], and Zannatul Nayem[5]

People of all ages, all over the world always wanted to become successful by any means. In modern times one of the most common ways that people are choosing to become successful is to be an entrepreneur or be a part of entrepreneurship. Entrepreneurship refers to a system of building a business. An entrepreneur is one who establishes a business, manages it, and enjoys the rewards more than anyone. A country's economic progress depends heavily on entrepreneurship because it helps to generate wealth, lower unemployment, and combat poverty. Now a day, in the Bangladeshi economy entrepreneurs are having a significant contribution. This article focuses on the economic contribution/state/overall situation/position of a women entrepreneur in Bangladesh. A quantitative research design along with simple percentages and Index Scale Statistics were used in analyzing the data. For the data collection, both primary and secondary sources were used. All primary samples are collected from women entrepreneurs. The findings are the considerable contributions that women's entrepreneurship has made to global economies. It was found that women's participation in entrepreneurship helps to support their family's income and significantly contributes to the community's economic growth and social well-being.

Keywords: Entrepreurship, women entrepreneurs, digital market, women empowerment.

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THE IMPACT OF OUTPUT GAP AND OIL PRICE VOLATILITY ON INFLATION IN BANGLADESH

Riva Das Gupta[1*]

Inflation is as menacing as a hit man, as terrifying as an armed robber, and as violent as a mugging (Ronald Regan, 1978). Inflationary cycle conducts as an ephemeral upliftment as well as accomplishment that resembles the notion of warfare while concomitantly both are taken into contemplation as an immutable obliteration of an economy (Ernest Hemingway, 1935). Compliance with Herbert Hoover (Addresses upon the American road, 1938), inflation is such a preposterous notion of a nation that is deemed as the unpaid bills of the nation. In spite of being reckoned as an inordinate augment in the extensive price index, inflation pondered as the unresolved issue throughout the history of economics. Since her independence, inflation which relates to the unceasing upswing in prices of goods and services in Bangladesh has been a crucial economical phenomenon of great concern to all players of the economy. Like as great as the utmost developing countries, at the moment, Bangladesh is undergoing through not only the excessive inflation but also the tight demand circumstances, particularly in emerging nations. Therefore, being one of the predominant challenges, the disquietude of the government is to adjust the price level contemplating on the general masses.

Keywords: Inflation, extensive price index, economical phenomenon

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CHALLENGES IN THE RECEIVING AND INSPECTION OF SUPPLIES AND EQUIPMENT IN AN INTERNATIONAL ORGANIZATION

Co, Maricel Subieto[1]

This study aims to identify the issues and challenges encountered in the receiving and inspection of supplies and equipment in the organization. The researcher desires to discover why the inspectors were experiencing these challenges. Curiosity comes to my mind on how they can dealt with their internal and external clients. The delivery of supplies and equipment in an international organization will begin with receiving and inspection stage. Upon the arrival of the materials, the inspector will accept the shipments, whether it's a supplied part or a well-meant, and process a receiving document, including the material's quantity, size, and quality. The receiving and inspection inspectors verify all raw materials by reconciling the purchase order requirements with the packing slip provided by the supplier in terms of Parts identification (marking), quantity verification, packing checking, date code or special restrictions, documentation review, especially the manufacturer's certificate of compliance. Material is then inspected and checked against the purchase order to confirm the quantity, size, and quality. Any deviations are noted on the bill of lading and/or the packing list.

Keywords: Internal and external client, receiving and inspection, supplies and equipment, inspector

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UNIVERSITY 4.0: DIGITAL TRANSFORMATION OF HIGHER EDUCATION EVOLUTION AND STAKES IN MOROCCO

Hind TAMER[1], Zakaria KNIDIRI[2*]

Facing the challenges of the new industrial revolution, the deep coupling between universities and industry 4.0, the integration of information and communication technologies in education, and the enhancement of the ability to serve society on the basis of internal and external synergy should become the common choice of different types of universities. The university plays an important role in development in any advanced economy. In the age of knowledge and globalisation, there are rapid technological changes that involve new disruptive processes. In this permanent challenge, it is necessary to adapt to the digital transformation, in order to be able to better respond to the needs and challenges of a constantly changing environment. It is necessary to pay attention to technological advances, in order to promote digital transformation in the new university, University 4.0, In order to face the challenges of the technonolgie development and the efficiency of universities in Morocco, it is necessary to introduce modern technologies, blockchain technology, artificial intelligence, chatbots..... into the sphere of Moroccan universities.

Keywords: Morocco, Digital transformation, ICT, digitalisation, University 4.0

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MULTIPLE-DRUG RESISTANT SHIGA TOXIN-PRODUCING E. COLI IN RAW MILK OF DAIRY BOVINE IN KHYBER PAKHTUNKHWA, PAKISTAN

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Shiga-toxin-producing Escherichia coli (STEC) also known as verocytotoxin-producing E coli (VTEC), strains are zoonotic pathogens and can lead to severe human diseases, such as diarrhoea, haemolytic uremic syndrome, and hemorrhagic colitis. The most recognized serotype of this class is E. coli O157:H7. The bacteria's main reservoir is ruminants, and contaminated raw milk is the most important source of illness. STEC harbours drug-resistant genes in dairy bovine raw milk samples received from street vendors, milk shops and dairy farms in Khyber Pakhtunkhwa, Pakistan. The current study investigated the presence of various STEC pathotypes in raw milk of dairy bovine. Of 800 milk samples, 321(40.5%) were positive for E. coli. Further investigation of E. coli through multiplex PCR for the presence of four virulence genes, i.e., stx1, stx2, eae, ehxA revealed that 40 (12.46%) out of 321 positive samples belonged to STEC various serotypes and positive virulence genes. STEC isolates were evaluated for susceptibility to 12 antibiotics, and three or more antimicrobial drugs were found resistant. The highest percentages of resistance were detected for ceftriexone (72%), amoxicillin (68%), and penicillin (59%), followed by Augmentin (59%) and the highest susceptibility was found for Norfloxacin (54%) followed by Enrofloxacin (50%), and florifincol (40%). We phenotypically observed the assays that 1.37% of STEC isolates are produced (ESBL) extended spectrum beta Lactamase and contained the bla Ctxm gene. These results highlight the potential threat to public health and necessitate adopting appropriate control measures to minimize the threat.

Keywords: Raw milk, Shiga toxin-producing Escherichia coli, ESBL, Khyber Pakhtunkhwa.

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BANGLADESHI MEDICINAL PLANTS CLASSIFICATION USING CNN

Marufa Khatun[1], Prince Mahmud[1], and Abdul Hasib Uddin[1*]

Medicinal vegetation classification is an important issue in our human life. There are many types of medicinal plants in nature which fulfill medicinal properties. We are using a Convolutional Neural Network(CNN) for medicinal vegetation identification. We collected the plants in the medicinal garden, 5 species of plants were used in the dataset and a total of 1500 images are taken of these medicinal plants, 300 images were taken per species. These 5 medicinal plants are Bohera, Haritaki, Nayantara, Pathorkuchi, and Lemongrass. We used leaf structure, color, and form characteristics. We displayed our medicinal vegetation classification containing a total of one thousand fifty images are train, three hundred images for testing, and one hundred fifty images are validation. We applied 14 models among them Xception model accuracy is 100%.

Keywords: CNN, Medicinal plants classification, Image classification.

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THE ADOPTION OF BIODIESEL AS A SUSTAINABLE APPROACH A SYSTEMATIC LITERATURE REVIEW

Basuki Winarno[1*], Udisubakti Ciptomulyono[1], Tatang Akhmad Taufik[1], and Ali Musyafa[2]

The involvement of stakeholders is important in the adoption of new renewable energy in the biodiesel industry. Although government policy plays a significant role in the research issue of new and renewable energy development and technology adoption, an adoption also needs to be viewed from the perspective of stakeholders in a varied ecosystem. The adoption of biodiesel technology is still less appealing, but stakeholder engagement has been explored extensively and has proven to be an effective strategy. In order to better understand the sustainability implications of using new and renewable energy sources, this project will undertake a literature analysis on the adoption of biodiesel. From ScienceDirect, research investigation is done over a 20-year period beginning in 2000 and ending in 2022. The research is grouped and stakeholder-related topics are explored using the bibliometric Vows Viewer technique. A lack of product quality assurance, hasty planning, and the imbalance between food and energy needs are to blame for the limited adoption of biodiesel technology by stakeholders to promote the sustainability of renewable energy. This study confirms such conclusion, particularly for the biofuel sector industry, despite the fact that earlier studies have identified a number of significant stakeholder determinants for the adoption of biodiesel.

Keywords: adoption technology, biodiesel, stakeholder, sustainability.

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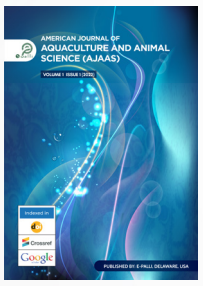

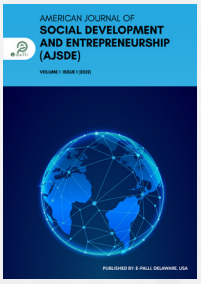

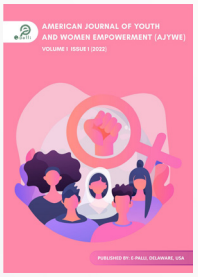

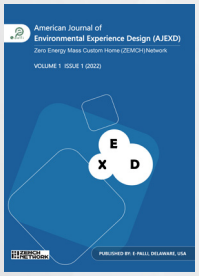

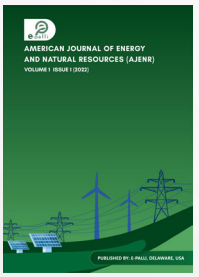

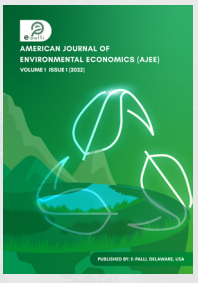

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