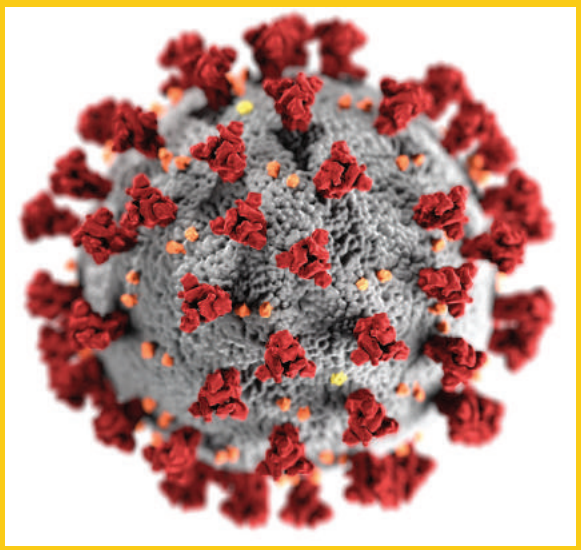
JGEC CONNECT

Jalpaiguri Government Engineering College Newsletter
VOL. 2, JAN 2020 to DEC 2020

RESEARCH HIGHLIGHT



Researchers Build a Dynamic Model of infected population due to spreading of pandemic COVID-19 considering both intra and inter-zone mobilization factors with rate of detection

1. A dynamic model of infected population to estimate the propagation pattern of COVID -19 pandemics.
2. Provision of incorporating several influencing factors in proposed model such as inter and intra zone mobilization, detection rate etc.
3. Different remedial steps are applied as operating procedures to the model in both standalone and hybridized mode.
4. Flexibility of obtaining probable infected pattern of a particular region or country by proper tuning of the different coefficient of proposed model.

AUTHORS:

GOUTAM KUMAR PANDA
PRADIP KUMAR SAHA
MOUSAM GHOSH
SWARNANKUR GHOSH
SUMAN GHOSH

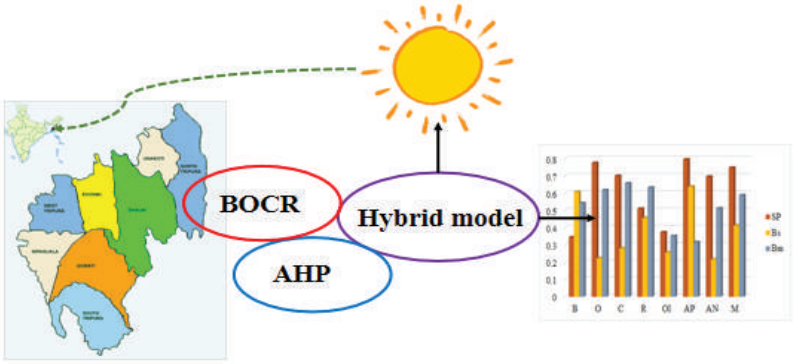
CONTENTS

FROM THE PRINCIPAL'S DESK

It gives me immense pride to express that as a result of the collective effort of the respected faculty members, students, staff and alumnus over the past few years Jalpaiguri Government Engineering College has maintained the position as one of the best Institutes in India. In spite of all the natural constraints, various International conferences, Skill and personality development programs and online webinars have been organized during the duration of COVID-19 pandemic. Our faculty members and students have participated in various Faculty development programs and conferences respectively and have published several research papers in various International journals . Experts from reputed leading Institutes and organizations across India and abroad have visited and delivered talks on diverse topics and brought fresh insights from various fields of learning.

I am hopeful that JGEC will shine bright as it always has been and continue to be one of the best institutes in the country in the years to come.

RESEARCH HIGHLIGHTS



Green Energy Sources Selection for Sustainable Planning: A Case Study

AUTHORS:
Chiranjib Bhowmik
Sumit Bhowmik
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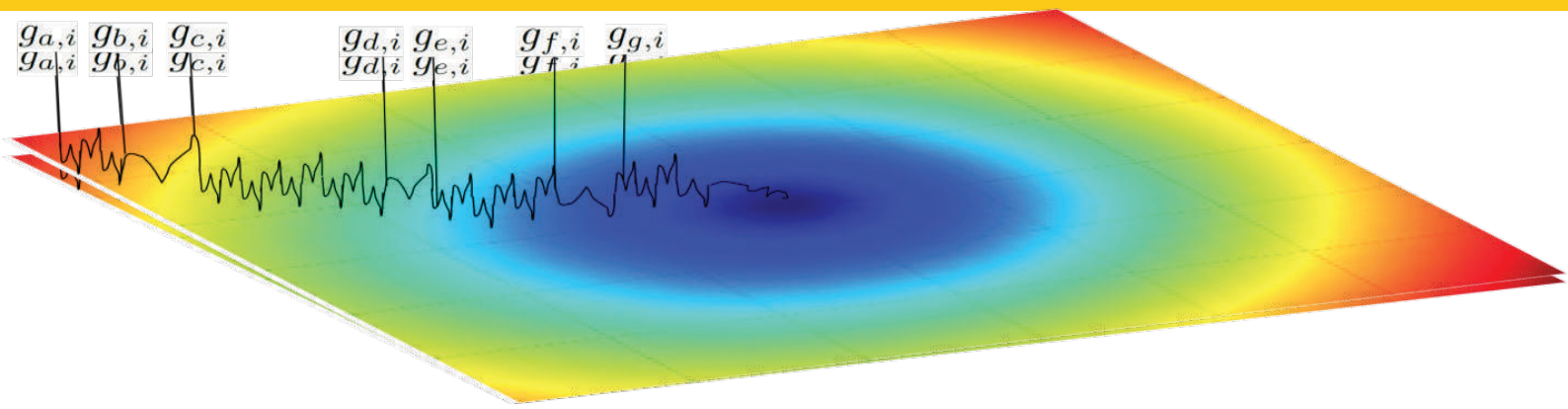
Published in: IEEE Transactions on Engineering Management
Digital Object Identifier 10.1109/TEM.2020.2983095, Date of Publication: 30 April 2020, Publisher: IEEE

The aim of this article is to select the optimum green energy sources for sustainable planning for a region. This research presents an integrated model based on theoretical base of benefit, opportunities, costs, risks and a well-known multicriteria decision-making technique, i.e., the analytical hierarchy process, to evaluate the green energy sources from northeast India along with 16 local factors. The analyzed result shows that solar photovoltaic is the optimum green energy source having the highest score value followed by other sources, appraised by the integrated model. Based on the results this article, we suggest some policies for the energy managers, policymaker,and decision makers. This article has both theoretical and practical implications. Theoretically, it contributes holistic measures for designing and managing the green energy sources selection framework for sustainability, and, practically, it helps various organizations operating in the green energy sources selection sector to improve their sustainability dimension for the cleaner future. The proposed article considers not only various cost criteria, but also all other criteria, such as power generation, implementation period, and useful life, that are considered to select the optimum green energy sources for the better future. The findings of this article can provide useful information to energy decision makers and serve as a reference for Tripura's energy policy.

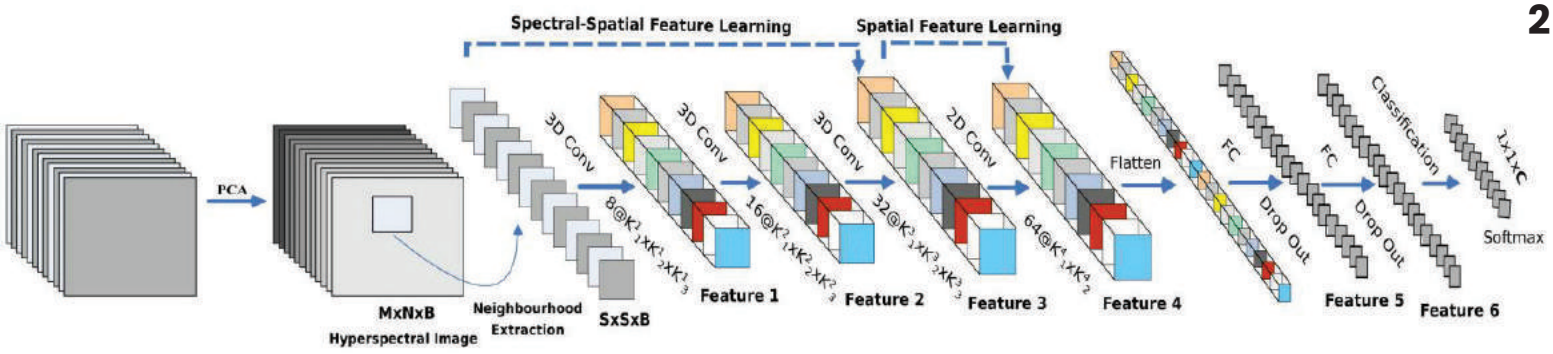


Published in: IEEE Transactions on Neural Networks and Learning Systems, November 2020, vol. 31(11), pp. 4500-4511, DOI: 10.1109/TNNLS.2019.2955777

diffGrad: An Optimization Method for Convolutional Neural Networks.

AUTHORS:
Shiv Ram Dubey
Soumendu Chakraborty
Swalpa Kumar Roy
Snehasis Mukherjee
Satish Kumar Singh
Bidyut B. Chaudhuri

Stochastic Gradient Decent (SGD) is one of the core techniques behind the success of deep neural networks. The gradient provides information on the direction in which a function has the steepest rate of change. The main problem with basic SGD is to change by equal sized steps for all parameters, irrespective of gradient behavior. Hence, an efficient way of deep network optimization is to make adaptive step sizes for each parameter. Recently, several attempts have been made to improve gradient descent methods such as AdaGrad, AdaDelta, RMSProp and Adam. These methods rely on the square roots of exponential moving averages of squared past gradients. Thus, these methods do not take advantage of local change in gradients. In this paper, a novel optimizer is proposed based on the difference between the present and the immediate past gradient (i.e., diffGrad). In the proposed diffGrad optimization technique, the step size is adjusted for each parameter in such a way that it should have a larger step size for faster gradient changing parameters and a lower step size for lower gradient changing parameters. The convergence analysis is done using the regret bound approach of online learning framework. Rigorous analysis is made in this paper over three synthetic complex non-convex functions. The image categorization experiments are also conducted over the CIFAR10 and CIFAR100 datasets to observe the performance of diffGrad with respect to the state-of-the-art optimizers such as SGDM, AdaGrad, AdaDelta, RMSProp, AMSGrad, and Adam. The residual unit (ResNet) based Convolutional Neural Networks (CNN) architecture is used in the experiments. The experiments show that diffGrad outperforms other optimizers. Also, we show that diffGrad performs uniformly well for training CNN using different activation functions. The source code is made publicly available at https://github.com/shivram1987/diffGrad.



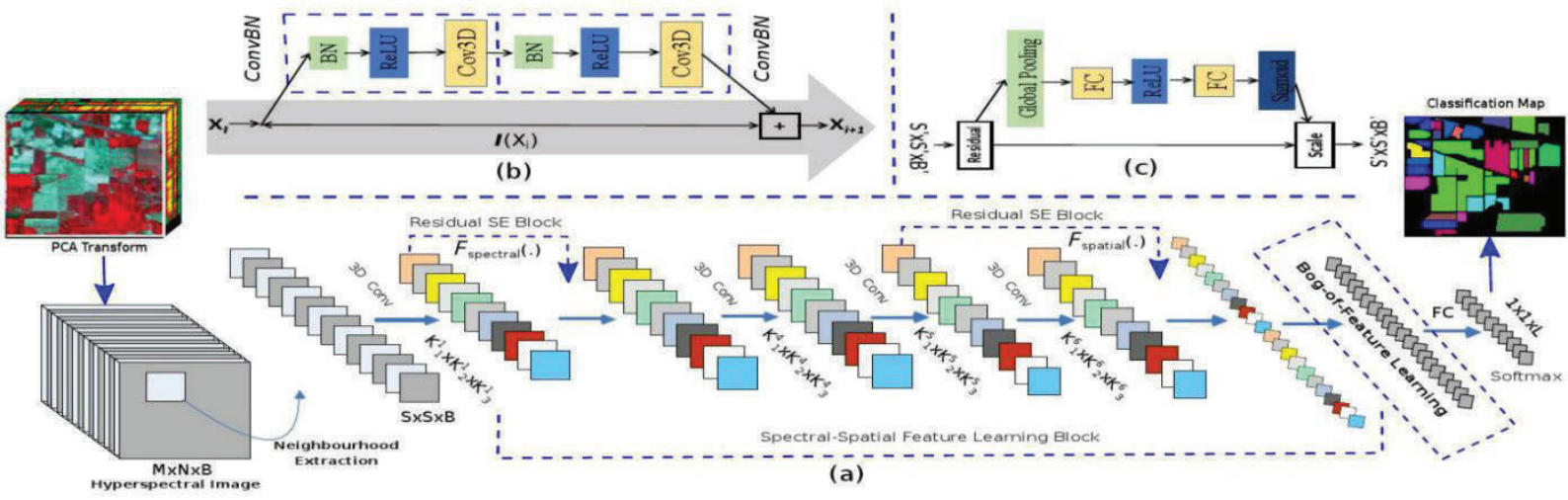
Published in: IEEE Geoscience and Remote Sensing Letters, February 2020, vol. 17(2), pp. 277-281, DOI:10.1109/LGRS.2019.2918719

HybridSN: Exploring 3D-2D CNN Feature Hierarchy for Hyperspectral Image Classification

AUTHORS:

Swalpa Kumar Roy
Gopal Krisha
Shiv Ram Dubey
Bidyut B. Chaudhuri

Stochastic Gradient Decent (SGD) is one of the core techniques behind the success of deep neural networks. The gradient provides information on the direction in which a function has the steepest rate of change. The main problem with basic SGD is to change by equal sized steps for all parameters, irrespective of gradient behavior. Hence, an efficient way of deep network optimization is to make adaptive step sizes for each parameter. Recently, several attempts have been made to improve gradient descent methods such as AdaGrad, AdaDelta, RMSProp and Adam. These methods rely on the square roots of exponential moving averages of squared past gradients. Thus, these methods do not take advantage of local change in gradients. In this paper, a novel optimizer is proposed based on the difference between the present and the immediate past gradient (i.e., diffGrad). In the proposed diffGrad optimization technique, the step size is adjusted for each parameter in such a way that it should have a larger step size for faster gradient changing parameters and a lower step size for lower gradient changing parameters. The convergence analysis is done using the regret bound approach of online learning framework. Rigorous analysis is made in this paper over three synthetic complex non-convex functions. The image categorization experiments are also conducted over the CIFAR10 and CIFAR100 datasets to observe the performance of diffGrad with respect to the state-of-the-art optimizers such as SGDM, AdaGrad, AdaDelta, RMSProp, AMSGrad, and Adam. The residual unit (ResNet) based Convolutional Neural Networks (CNN) architecture is used in the experiments. The experiments show that diffGrad outperforms other optimizers. Also, we show that diffGrad performs uniformly well for training CNN using different activation functions. The source code is made publicly available at https://github.com/shivram1987/diffGrad.



Published in: IEEE Transactions on Geoscience and Remote Sensing, August 2020, vol. 58(8), pp. 5277-5290, DOI:10.1109/TGRS.2019.2961681

Of late, convolutional neural networks (CNNs) find great attention in hyperspectral image classification since deep CNNs exhibit commendable performance for computer vision related areas. CNNs have already proved to be very effective feature extractors, especially for the classification of large data sets composed of 2D images. However, due to the existence of noisy or correlated spectral bands in the spectral domain and non-uniform pixels in the spatial neighborhood, HSI classification results are often degraded and unacceptable. However, the elementary CNN models often find intrinsic representation of pattern directly when employed to explore HSI in spectral-spatial domain. In this paper, we design an end-to-end spectral-spatial squeeze-and-excitation (SE) residual bag-of-feature (S3EResBoF) learning framework for HSI classification that takes as input raw 3D image cubes without engineering and builds a codebook representation of transform feature by motivating the feature maps facilitating classification by suppressing useless feature maps based on patterns present in the feature maps. To boost the classification performance and learn the joint spatial-spectral features, every residual block is connected to every other 3D convolutional layer through an identity mapping followed by a SE block, thereby facilitating the rich gradients through backpropagation. Additionally we introduce batch normalization on every convolutional layer (ConvBN) to regularize the convergence of the network and scale invariant bag-of-feature quantization for the measure of classification. The experiments conducted using three well-known HSI data sets and compared with state-of-the-art classification methods reveal that S3EResBoF provides competitive performance in terms of both classification and computation time.

Lightweight Spectral-Spatial Squeeze-and-Excitation Residual Bag-of-Features Learning for Hyperspectral Classification.

AUTHORS:

Swalpa Kumar Roy
Subhrasankar Chatterjee
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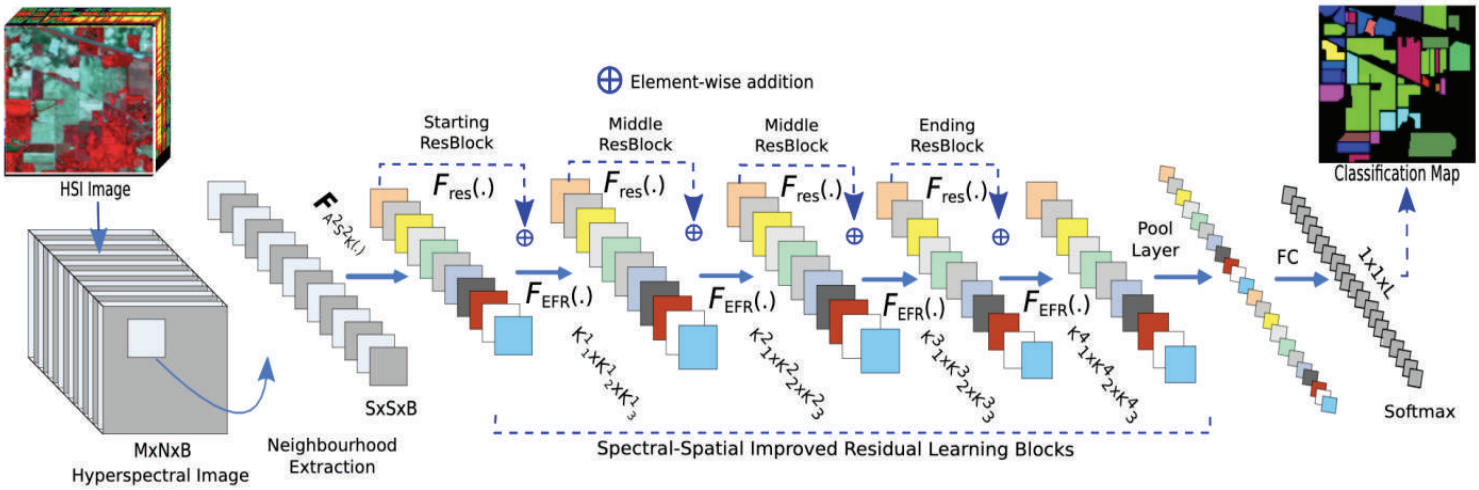
Bidyut B. Chaudhuri
Jan Platoś



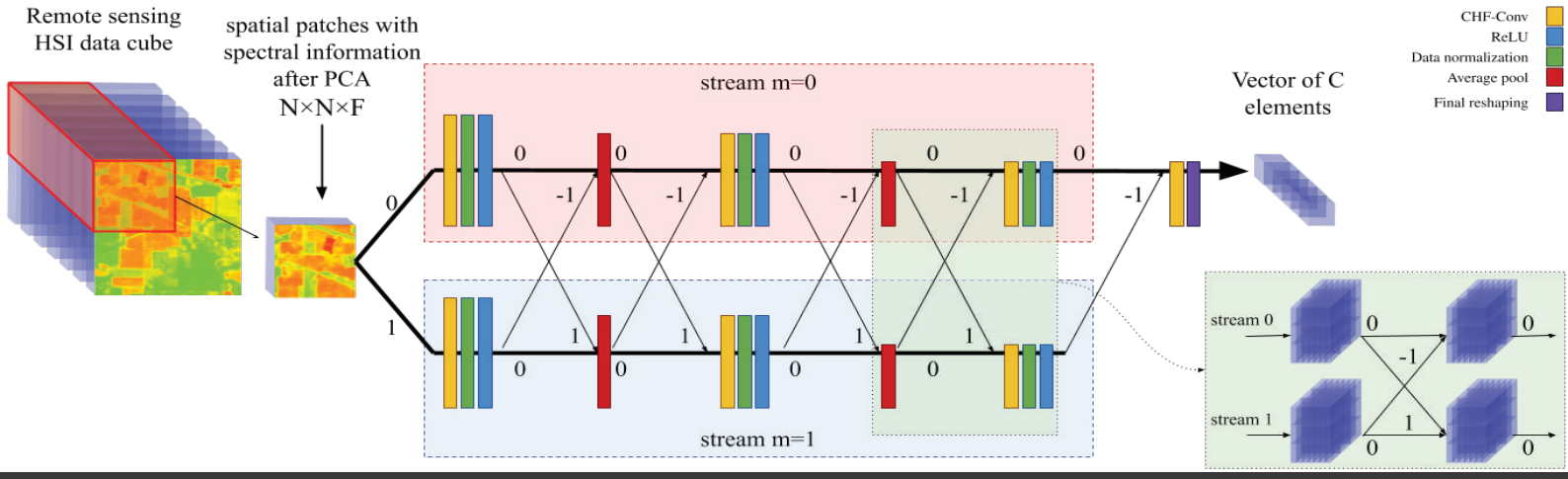
Published in: IEEE Transactions on Geoscience and Remote Sensing, December 2020, doi:10.1109/TGRS.2020.3043267.

Hyperspectral images (HSI) provide rich spectral-spatial information with stacked hundreds of contiguous narrow bands. Due to the existence of noise and band correlation, the selection of informative spectral-spatial kernel features poses a challenge. This is often addressed by using convolutional neural networks (CNNs) with receptive field (RF) having fixed sizes. However, these solutions cannot enable neurons to effectively adjust RF sizes and cross-channel dependencies when forward and backward propagations are used to optimise the network. In this paper, we present an attention-based adaptive spectral-spatial kernel improved residual network (A^2S^2K-ResNet) with spectral attention to capture discriminative spectral-spatial features for HSI classification in an end-to-end training fashion. In particular, the proposed network learns selective 3-D convolutional kernels to jointly extract spectral-spatial features using improved 3-D ResBlocks, and adopts an efficient feature recalibration (EFR) mechanism to boost the classification performance. Extensive experiments are performed on three well-known hyperspectral datasets, i.e., IP, KSC and UP, and the proposed A^2S^2K-ResNet can provide better classification results in terms of overall accuracy (OA), average accuracy (AA), and Kappa compared with existing methods investigated. The source code will be made available at https://github.com/suvojit-0x55aa/A2S2K-ResNet.

Attention-Based Adaptive Spectral–Spatial Kernel ResNet for Hyperspectral Image Classification

AUTHORS:

Swalpa Kumar Roy
Suvojit Manna
Tiecheng Song
Lorenzo Bruzzone



Published in: IEEE Access, October 2020, vol. 8, pp. 179575-179591, DOI: 10.1109/ACCESS.2020.3027776.

Rotation Equivariant Convolutional Neural networks for Hyperspectral Image Classification

AUTHORS:

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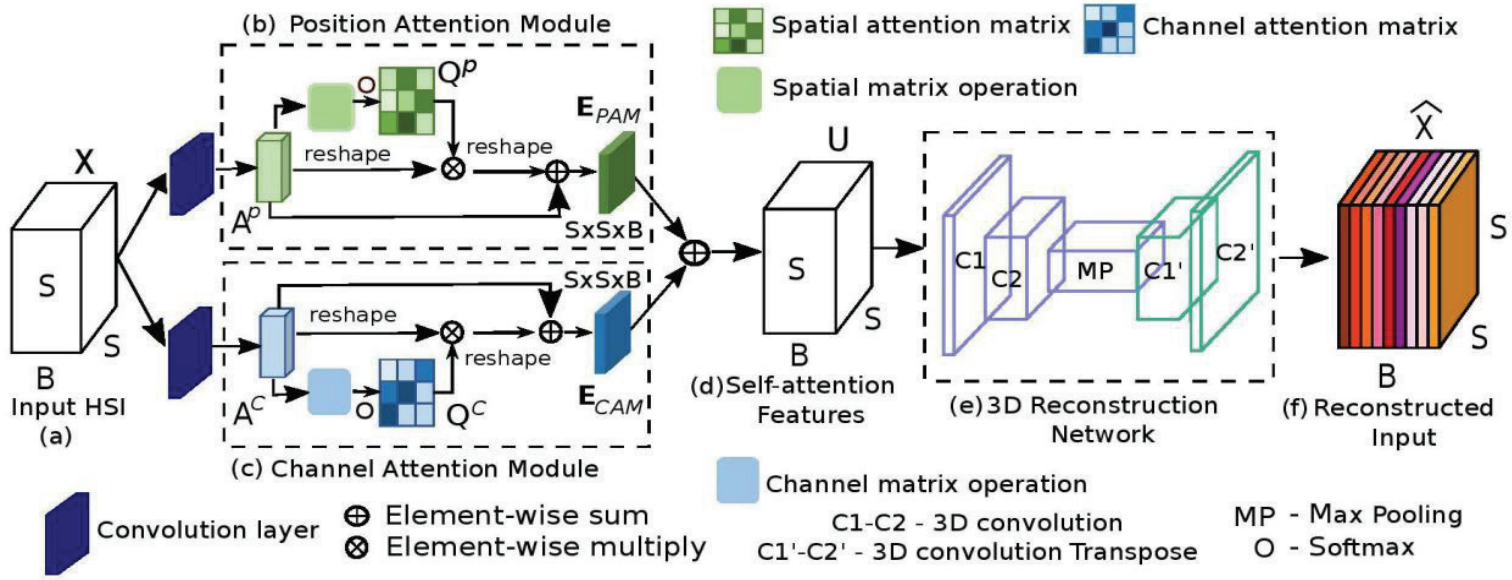
Juan M. Haut
Swalpa Kumar Roy
Eligius M.T. Hendrix

Detection of surface material based on hyperspectral imaging (HSI) analysis is an important and challenging task in remote sensing. It is widely known that spectral-spatial data exploitation performs better than traditional spectral pixel-wise procedures. Nowadays, convolutional neural networks (CNNs) have shown to be a powerful deep learning (DL) technique due their strong feature extraction ability. CNNs not only combine spectral-spatial information in a natural way, but have also shown to be able to learn translation-equivariant representations, i.e. a translation of input features into an equivalent internal CNN feature map. This provides great robustness to spatial feature locations. However, as far as we know, CNNs do not exhibit a natural way to exploit rotation equivariance, i.e. make use of the fact that data patches in a HSI data cube are observed in different orientations due to their orientation or on the varying paths/orbits of the airborne/spaceborne spectrometers. This paper presents a rotation-equivariant CNN2D model for HSI analysis, where traditional convolution kernels have been replaced by circular harmonic filters (CHFs). The obtained results over three well-known HSI datasets showcase the potential of the approach.



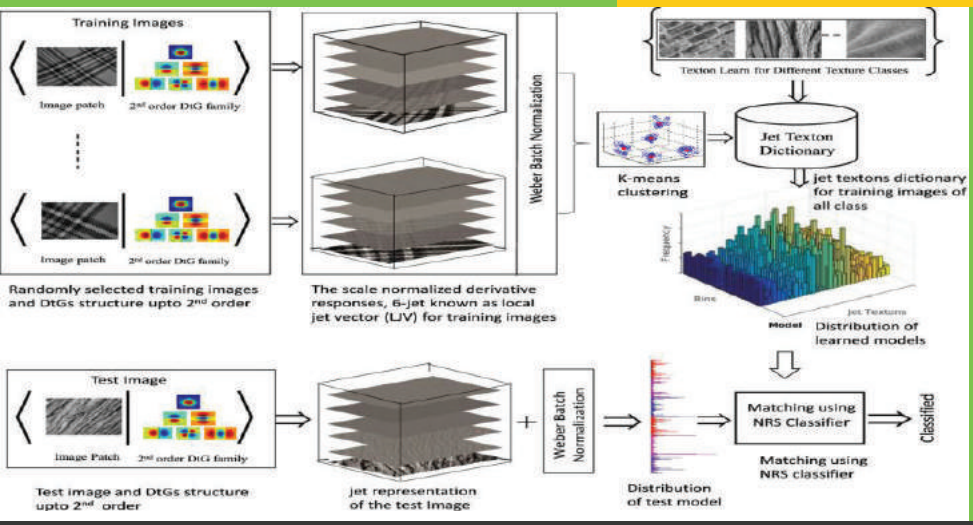
Published in: IEEE Geoscience and Remote Sensing Letters, August 2020, DOI:10.1109/LGRS.2020.3013235.

DARecNet-BS: Unsupervised Dual Attention Reconstruction Network for Hyperspectral Band Selection

AUTHORS:

Swalpa Kumar Roy
Sayantan Das
Tiecheng Song
Bhabatosh Chanda

Due to the existence of noise and spectral redundancies in hyperspectral images (HSI), the band selection is highly required and can be achieved through the attention mechanism. However, existing band selection (BS) methods fail to consider global interaction between the spectral and spatial information in a non-linear fashion. In this letter, we propose an end-to-end unsupervised dual attention reconstruction network for band selection (DARecNet-BS). The proposed network employs a dual attention mechanism, i.e., position attention module (PAM) and channel attention module (CAM), to recalibrate the feature maps and subsequently uses a 3D reconstruction network to restore the original HSI. This way, the long range nonlinear contextual information in spectral and spatial directions is captured and the informative band subset can be selected. Experiments are conducted on three well-known hyperspectral datasets, i.e., IP, UP and SA, to compare existing band selection approaches, and the proposed DARecNet-BS can effectively select less redundant bands with comparable or better classification accuracy. The source code will be made available at https://github.com/ucalyptus/DARecNet-BS.



Unconstrained Texture Classification using Efficient Jet Texton Learning

AUTHORS:

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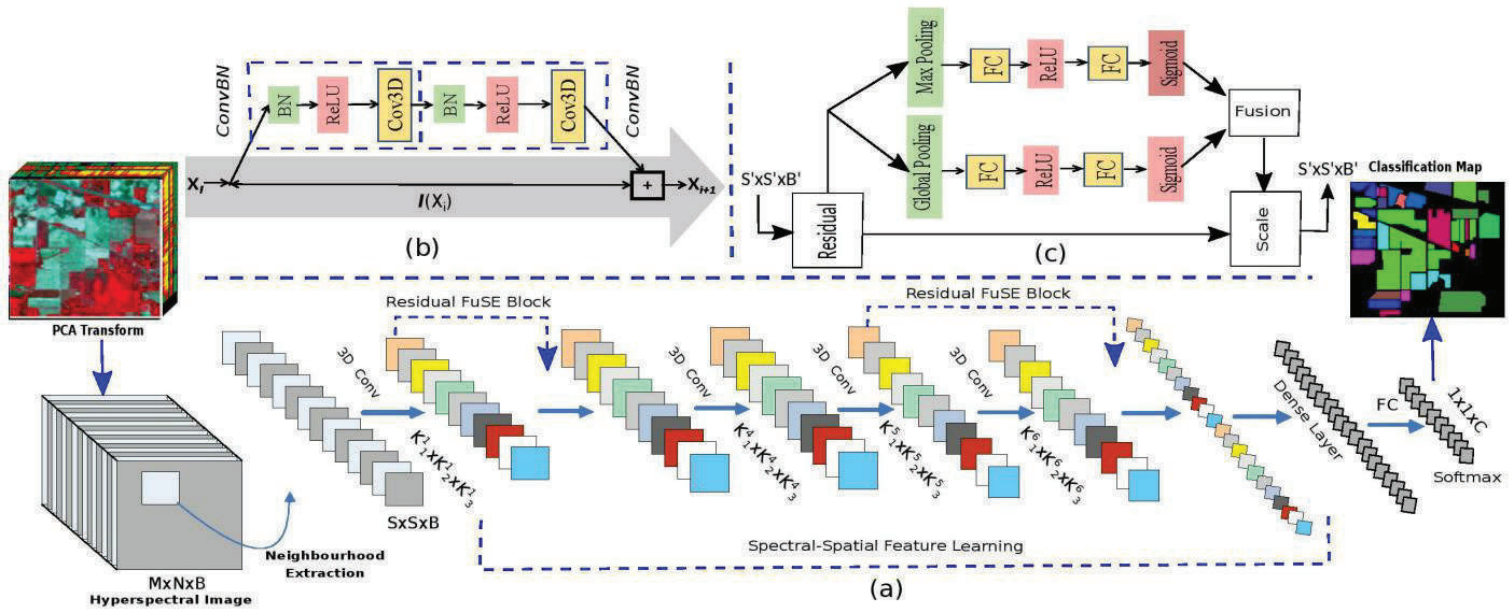
Shiv Ram Dubey
Siddhartha Bhattacharyya
Bidyut B. Chaudhuri

Published in: Journal of Applied Soft Computing, Elsevier, January 2020, vol. 86, DOI:10.1016/j.asoc.2019.105910.

This paper proposes a simple and effective texture recognition method that uses a new class of jet texton learning. In this approach, first a Jet space representation of the image is derived from a set of derivative of Gaussian (DtGs) filter responses upto 2nd order (R^6), so called local jet vector (Ljv), which satisfies the scale space properties, where the combinations of local jets preserve the intrinsic local structure of the image in a hierarchical way and are invariant to image translation, rotation and scaling. Next, the jet textons dictionary is learned using K-means clustering algorithm from DtGs responses, followed by a contrast Weber law normalization pre-processing step. Finally, the feature distribution of jet texton is considered as a model which is utilized to classify texture using a non-parametric nearest regularized subspace (Nrs) classifier. Extensive experiments on three large and well-known benchmark database for texture classification like KTH-TIPS, Brodatz and CUReT show that the proposed method achieves state-of-the-art performance, especially when the number of available training samples is limited. The source code of complete system is made publicly available at https://github.com/swalpa/JetTexton.



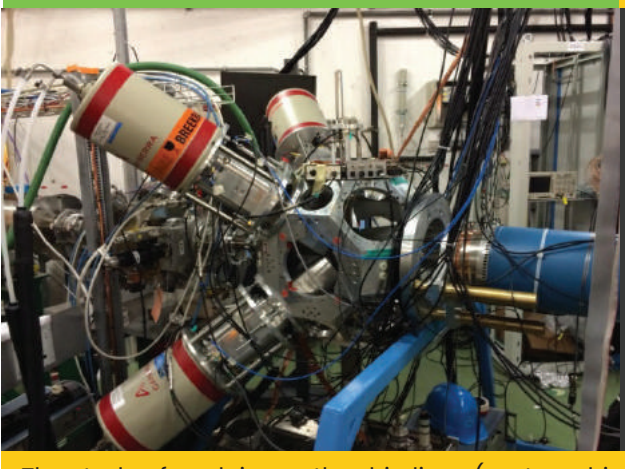
Published in: IET Image Processing, June 2020, vol. 14(8), pp. 1653-1661, DOI:10.1049/iet-ipr.2019.1462.

FuSENet: Fused Squeeze-and-Excitation Network for Spectral-Spatial Hyperspectral Image Classification

AUTHORS:

Swalpa Kumar Roy
Shiv Ram Dubey
Subhrasankar Chatterjee
Bidyut B. Chaudhuri

Deep learning based approaches have become very prominent in recent years due to its outstanding performance as compared to the hand-extracted feature based methods. Convolutional Neural Network (CNN) is a type of deep learning architecture to deal with the image/video data. Residual Network (ResNet) and Squeeze and Excitation Network (SENet) are among recent developments in CNN for image classification. However, the performance of SENet is depends on the squeeze operation done by global pooling, which sometimes may lead to poor performance. In this paper, we propose a bilinear fusion mechanism over different types of squeeze operation such as global pooling and max pooling. The excitation operation is performed using the fused output of squeeze operation. We used to model the proposed fused squeeze and excitation network with the residual unit and name it as FuSENet. Here the classification experiments are performed over benchmark hyperspectral Image (HSI) datasets. The experimental results confirm the superiority of the proposed FuSENet method with respect to the state-of-the-art methods. The source code of the complete system is made publicly available at https://github.com/swalpa/FuSENet.



Experimental setup at ISOLDE CERN

The article with the following title is available in:
Journal of Physics: Conference Series; 1643 (2020) 012127.
doi: 10.1088/1742-6596/1643/1/012127

Exotic decay of neutron-deficient Cs isotope around the proton drip line

AUTHORS:

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M.J.G. Borge

The study of nuclei near the drip lines (proton-dripline and neutron-dripline) provides unique information on n-n interaction that is very important to understand the limits of existence of atomic nuclei. The experimental data close to the drip line may validate the nuclear models and nucleon-nucleon interaction. Many interesting properties i.e., the disappearance of the magic numbers, appearance of PIGMY resonance, exotic decay, exotic cluster structure etc. are observed in these nuclei. An experiment was proposed and performed (Expt. IS545, Spokesperson: Prof. Ushasi Datta) at ISOLDE CERN, Geneva, Switzerland to study the neutron-deficient nucleus around close to the proton drip-line. The neutron-deficient 115Cs along with other isotope were produced by spallation reaction using GeV proton obtained from CERN PS booster impinging on LaC2 target. The radioactive beams were produced, ionized, extracted and separated using the ISOL method. 115Cs with energy of keV was separated and transferred to the experimental hall and it was implanted on a carbon foil ( ) located in the middle of the detector setup [Fig. 1]. At IDS, a compact particle detection system consisting of four DSSDs (Double Sided Silicon Strip Detectors), stacked in telescope configuration with 4 PAD detectors. A fifth DSSD (μm thick was placed below the setup for beta counting. Four High-Purity Germanium (HPGe) clover detectors surround the chamber for detecting γ-rays with better energy resolution. β-delayed particle emission from neutron-deficient 115Cs, was observed and by measuring the time distribution in the delayed proton spectrum, the half-life of the ground state of 115Cs was extracted. The obtained half-life of 115Cs is sec which is in agreement with previously reported values. We have also reported for the first time on the p-unbound excited states of 115Xe obtained by studying the delayed protons from 115Cs.

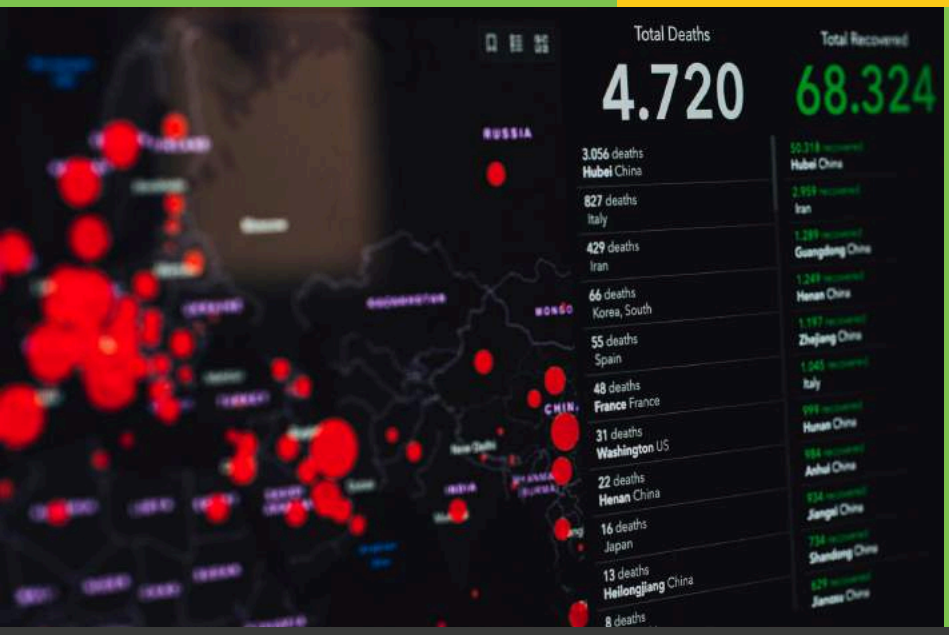
Interacting Tsallis holographic dark energy in higher dimensional cosmology

AUTHORS:

Arindam Saha

Souvik Ghose

An interacting Tsallis holographic dark energy (THDE) model is proposed in the framework of Compact Kaluza-Klein gravity. THDE correspondence of interacting Generalized Chaplygin Gas (GCG) model is made in compact KK framework. It is seen that the present model can successfully incorporate late time acceleration of universe. A stable configuration can be found in the present epoch which is also compatible with the observed value of the cosmological parameters like the density parameter, equation of state(EoS) parameter and the deceleration parameter. It is noted that dark energy (DE) might have evolved from a phantom phase in the past. Nature of dark energy is found to depend on the coupling parameter of the interaction. The model is classically stable for presently accepted value of density parameter. Classical stability consideration is also found to put an upper bound on the model parameter.



Dynamic Model of Infected Population Due to Spreading of Pandemic COVID-19 Considering Both Intra and Inter Zone Mobilization Factors with Rate of Detection

AUTHORS:

GOUTAM KUMAR PANDA

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Published in a renowned Elsevier Journal of Chaos, Solitons & Fractals (An international SCI indexed journal of nonlinear science with an Impact Factor of 3.764) | https://doi.org/10.1016/j.chaos.2020.110377

Most of the widely populated countries across the globe have been observing vicious spread and detrimental effects of pandemic COVID-19 since its inception on December 19. Therefore to restrict the spreading of pandemic COVID-19, various researches are going on in both medical and administrative sectors. The focus has been given in this research keeping an administrative point of view in mind. In this research a dynamic model of infected population due to spreading of pandemic COVID-19 considering both intra and inter zone mobilization factors with rate of detection has been proposed. Few factors related to intra zone mobilization; inter zone mobilization and rate of detection are the key points in the proposed model. Various remedial steps are taken into consideration in the form of operating procedures. Further such operating procedures are applied over the model in standalone or hybridized mode in case-studies manner. Further zone-wise increase in infected population due to the spreading of pandemic COVID-19 has been studied and reported. The research findings have been published in a renowned Elsevier Journal of Chaos, Solitons & Fractals (An international SCI indexed journal of nonlinear science with an Impact Factor of 3.764).

As an outcome of the research, a dynamic model of infected population due to spreading of pandemic COVID-19 considering both intra and inter zone mobilization factors with rate of detection, have been proposed with various operating procedures. Considering the operating procedures as followed in this research, various case studies have been simulated and reported with adequate responses in said published journal. Mobilization of population from one state to another state is a crucial parameter of the proposed model. The coefficients or factors associated with the proposed model are needed to be tuned to get the pattern of infected population of any particular country. Various operating procedures have been applied as remedial steps in standalone or hybridized mode. Further this study also investigates that imposing various strict administrative protocols in certain zones by improving such factors may be achieved improved responses. Further the proposed model is having various provisions to fed external inputs to realise the effects of imposing different remedial steps. In addition to this the proposed model has been applied over the real world data considering three states of India and the predicted responses are compared with real data and reported with bar chart representation in the said published journal.

A Probabilistic Optimal Power Flow in Wind-Thermal Coordination Considering Intermittency of the Wind

AUTHORS:

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Dhiman Banerjee
Provas Kumar Roy
Pradip Kumar Saha
Goutam Kumar Panda

This article specifically aims to prove the superiority of the proposed moth swarm algorithm (MSA) in view of wind-thermal coordination. In the present article, a probabilistic optimal power flow (POPF) problem is formulated to reflect the probabilistic nature of wind. Modelling of doubly fed induction generator (DFIG) is included in the proposed POPF to represent the wind energy conversion system (WECS). To reduce DFIG imposed deviation of bus voltage ancillary reactive power support is considered. Moreover, three different optimization techniques, namely, MSA, biogeography-based optimization (BBO), and particle swarm optimization (PSO) are independently applied for the minimization of active power generation cost for wind-thermal coordination, considering different instances in case of IEEE 30-bus and IEEE 118-bus system. From the simulation results, it is confirmed and validated that the proposed MSA performs considerably better than BBO and PSO.

Received 20 November 2019, Revised 21 May 2020, Accepted 25 May 2020, Available online 8 June 2020.
Electric Power Systems Research(Elsevier) Impact Factor-3.211 | Volume 187, October 2020, 106433 | https://doi.org/10.1016/j.epsr.2020.106433

In the field of dimming of high brightness LED, variable duty ratio pulse-width-modulation (PWM) operated LED dimmable drivers are commonly used which cause high flicker metrics resulting visual discomfort and health risks of the viewer as pointed in recently reported IEEE Std. 1789-2015. In IEEE Std. 1789-2015, a low flicker metrics such as flicker index and modulation depth are recommended to avoid those health hazards. Such flicker metrics are to be calculated from modulating LED current and have to be sufficiently low and also modulation depth should lie within a prescribed operating region as recommended in IEEE Std. 1789-2015. In this paper a variable-frequency constant duty ratio PWM operated novel driving scheme has been proposed for DC-DC wide range dimmable LED driver which performs dimming with a low flicker metrics. The reported driving scheme does not require any electrolytic capacitor in the driver unit and hence low life span of electrolytic capacitor does not deteriorate life span of LED driver unit. Both simulation and experimentation have been carried out and reported in this paper with adequate responses. Also comparative analyses of flicker metrics of the proposed driving scheme with existing conventional PWM operated dimmable LED drivers have been reported.

An Improved Dimmable LED Driving Scheme with Low Flicker Metrics for Low Voltage Application

AUTHORS:

RupamChaki
MousamGhosh
Goutam Kumar Panda
Pradip Kumar Saha
Anubrata Dey
Atanu Banerjee

INTERNATIONAL JOURNAL of RENEWABLE ENERGY RESEARCH
I. Koley et al., Vol.10, No.2, June, 2020

Wind Energy Infiltrated Multi-Area Power System:Optimized 2-DOF-FOPID Controller for LFC

AUTHORS:

Indrajit Koley
Asim Datta
Goutam Kumar Panda
Pradip Kumar Saha
Goutam Kumar Panda

The major concern for deviation of frequency in renewable energy penetrated power generating system is the intermittent nature of the inputs in addition to variable load demand. This paper investigates load frequency control (LFC) of a thermal-wind-thermal based hybrid power generating unit. A two-degree-of-freedom (2-DOF) fractional-order-proportional– integral–derivative (FOPID) controller is implemented to control the frequency of the proposed system. Cuckoo search algorithm (CSA) is applied to optimize the gains parameters of the proposed controller. The results obtained from the proposed CSA tuned 2-DOF-FOPID controller are compared with the traditionally well-known conventional controllers. MATLAB simulation shows that, compared to the conventional widely applied PI and PID controllers, the presented controller reveals superior response in terms of lesser transient time, less overshoot, wide robustness to limit the frequency deviation (FD) within the acceptable range considering integral square error (ISE) as an objective function.

FACULTY ACHIEVEMENTS

Over the years our very experienced professors have provided some very important research papers and publication in the scientific community. This year in spite of the severe conditions and the lockdown our faculties have been carrying on their excellent works. We have tried collecting and putting out to you all the works published in journals and presented in conferences all over the world. It is a matter of pride and achievement for the Jalpaiguri Government community to have such great professors guiding our students and providing keen insights into the scientific community all over the world.

Dept. of Mechanical engineering
List of publications

INTERNATIONAL JOURNALS

1. Chiranjib Bhowmik, Sumit Bhowmik, Amitava Ray. Green energy sources selection for sustainable planning: A case study. IEEE Transactions on Engineering Management. (IEEE Xplore), (Impact Factor 1.867), ISSN: 0018-9391 DOI: 10.1109/TEM.2020.2983095. [2020]

2. Chiranjib Bhowmik, Mohammad Amin Kaviani, Amitava Ray, Lanndon A. Ocampo. An Integrated Entropy-TOPSIS methodology for Evaluating Green Energy Sources. International Journal of Business Analytics (ESCI/ SCOPUS), ISSN- 2334-4547. [2020]

3.Nripen Mondal, Sudip Mandal, Madhab Chandra Mandal; ",FPA based optimization of drilling burr using regression analysis and ANN model,Measurement,152,,107327,2020,Elsevier

4. Nripen Mondal, Mandal, Madhab Chandra Mandal, Bishal Dey, santanu Das ",Genetic algorithm-based drilling burr minimization using adaptive neuro-fuzzy inference system and support vector regression,"Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture",234,5,956-968,2020,"SAGE Publications Sage UK: London, England"

5.Shankha Subhra Goswami and Soupayan Mitra 'Selecting the best mobile model by applying AHP-COPRAS and AHP-ARAS decision making methodology'. 'International Journal of Data and Network Science', Vol: 4, Issue: 1, page : 27-42, 2020 (Print published), DOI : 10.5267 /j.ijdns.2019.8.004. Licensee : Growing Science, Canada.

6.Shankha Shubhra Goswami, Dhiren Kumar Behera, Soupayan Mitra'A comprehensive study of Weighted Product Model for selecting the best laptop model available in the market'. 'Brazilian Journal of Operations & Production Management', Vol: 17, No. 2, page: 1-18, June'2020. DOI : https://doi.org /10.14488/B-JOPM.2020.017.

7.Sudip Banerjee, Bikash Panja and Soupayan Mitra 'Effect of process parameters on machining EN 47 spring steel through WEDM'."Emerging Materials Research" International Journal. Vol. : 9, Issue : 3, page: 1-9.DOI : 10.1680/jemmr.19.00075

8.Monayem Parvej, Soupayan Mitra and Shankha Shubhra Goswami 'An Integrated Approach of AHP and TOPSIS for Optimum Selection of Renewable Energy Source'. 'International Journal of Industrial Engineering and Design', Vol. 6, Issue 2, 2020, www.journalspub.com

9.Shankha Subhra Goswami and Soupayan Mitra'Selecting the best mobile model by applying AHP-COPRAS and AHP-ARAS decision making methodology'. 'International Journal of Data and Network Science', Vol: 4, Issue: 1, page : 27-42, 2020 (Print published), DOI : 10.5267 /j.ijdns.2019.8.004. Licensee : Growing Science, Canada.

10.Shankha Shubhra Goswami, Dhiren Kumar Behera, Soupayan Mitra 'A comprehensive study of Weighted Product Model for selecting the best laptop model available in the market'. 'Brazilian Journal of Operations & Production Management', Vol: 17, No. 2, page: 1-18, June'2020. DOI : https://doi.org /10.14488/B-JOPM.2020.017.

11.Sudip Banerjee, Bikash Panja and Soupayan Mitra 'Effect of process parameters on machining EN 47 spring steel through WEDM'. "Emerging Materials Research" International Journal. Vol. : 9, Issue : 3, page: 1-9. DOI : 10.1680/jemmr.19.00075

12.Monayem Parvej, Soupayan Mitra and Shankha Shubhra Goswami 'An Integrated Approach of AHP and TOPSIS for Optimum Selection of Renewable Energy Source'.
'International Journal of Industrial Engineering and Design', Vol. 6, Issue 2, 2020,
www.journalspub.com

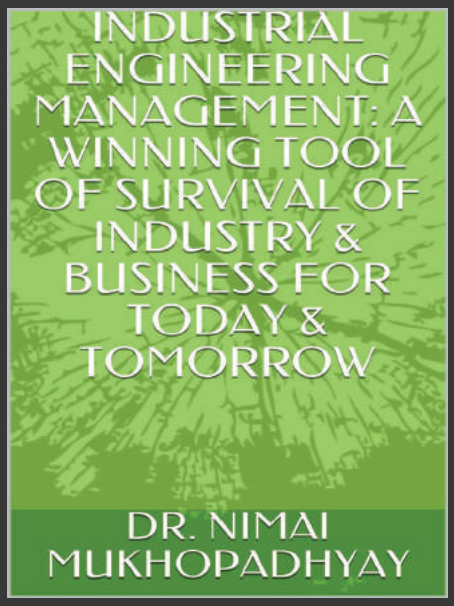
BOOK CHAPTERS

1. Sudipta Ghosh, Madhab Chandra Mandal, Amitava Ray (2020). Green Supplier Selection Using Statistical Method. Operations Management and Systems Engineering, Lecture Notes on Multidisciplinary Industrial Engineering. Springer Nature Singapore Pte Ltd. ISSN: 2522-5030. https://doi.org/10.1007/978-981-15-6017-0_26

2. Rohit Sharsar, Sudipta Ghosh, Madhab Chandra Mandal, Amitava Ray (2020). Optimum Experimental Setup of EDM Using Entropy Coupled MCDM Techniques. Optimization Methods in Engineering. Springer Nature Singapore Pte Ltd. ISSN: 2522-5030. https://doi.org/10.1007/978-981-15-4550-4_35

3. Chiranjib Bhowmik, Divya Zindani, Sumit Bhowmik, Amitava Ray (2020). Sustainable Supplier Selection Using Combined Thinking Process. Advances in Intelligent Systems and Computing (SCOPUS). ISSN: 2194-5357. https://doi.org/10.1007/978-981-15-0751-9_26. [2020]

Industrial Engineering Management: A winning tool of survival of industry and Business for today and tomorrow, Amazon kindle e Book written by DN Mukhopadhyay



CONFERENCES

1. Sudipta Ghosh, Madhab Chandra Mandal, Amitava Ray. 'Green Supplier Selection: An Empirical Investigation', International Conference on Modeling, Simulation and Optimization (CoMSO-2020), National Institute of Technology Silchar (NIT Silchar), Assam, India, August 03-05, 2020

2. Sudipta Ghosh, Madhab Chandra Mandal, Amitava Ray. 'Sustainable Sourcing and Benchmarking: An Empirical Investigation', International Conference on Thermal Engineering and Management Advances, ICTEMA-2020, Jalpaiguri Govt. Engineering College, Jalpaiguri, West Bengal, India, December 19-20, 2020

3. Sohom Das, Sudipta Ghosh, Madhab Chandra Mandal, "Performance Evaluation of GATE Coaching Institutes in India: A Fuzzy-MCDM Approach",2020 IEEE 1st International Conference for Convergence in Engineering (ICCE),72-77,2020,IEEE

4. Shankha Shubhra Goswami, Dhiren Kumar Behera, Soupayan Mitra'Supplier Selection Problem by Applying Additive Ratio Assessment (ARAS) Methodology''International Conference on Thermal Engineering and Management Advances (ICTEMA-2020)', Jalpaiguri (JGEC), 19-20 December'2020, page: 11-16, Paper number : PM-151/ICTEMA2020

5. S Ray, A Kundu, N Mandal, "An Extensive Literature on Flow Boiling", International Conference on Thermal Engineering and Management Advances (ICTEMA 2020), 19-20 December, 2020 Organized by Jalpaiguri Government Engineering College, Jalpaiguri.

6. S Ray, A Kundu, N Mandal, "Earth-Air Heat Exchanger - An Extensive Study", International Conference on Thermal Engineering and Management Advances (ICTEMA 2020), 19-20 December, 2020 Organized by Jalpaiguri Government Engineering College, Jalpaiguri.

7. S Ray, A Kundu, N Mandal, "An Extensive Study on Historic Development of Refrigerants", International Conference on Advances in Management and Technology (ICAMT 2020), November 06-07, 2020, Jointly Organized by Sadabai Raisoni Women's College , Mazedan International Research Academy and G H Raisoni School of

8. S Ray, A Kundu, N Mandal, "Eco-Friendly Refrigerants' Performances in HVAC", International Conference on Energy and Sustainable Development(ICESD 2020), February 14-15, 2020, Jointly organized by Jadavpur University and The Institution of Engineers India, Kolkata

9. S Ray, A Kundu, N Mandal, "Historic Encroachment of Flow Boiling in HVAC", International Conference Advancements in Mechanical Engineering (ICAME 2020), January 16-18, 2020, organized by Aliah University -Kolkata.

10. S Ray, A Kundu, N Mandal, "Boiling Performances of Efficient Eco-friendly Refrigerants", National Conference on Advances in Energy Efficient Technologies (NCAEET-2019), March - 03, 2019, organized by Marian Engineering College, Kazhakuttom, Thiruvananthapuram, Kerala.

11. S Ray, A Kundu, N Mandal, "New Emergent Refrigerants' Performance in Flow Boiling: An Extensive Study", National conference "Trends and Advances in Mechanical Engineering (TAME-2019)",February15-16, 2019, organized by Kalyani Government Engineering College, Kalyani, West Bengal.

12. S Ray, A Kundu, N Mandal, "An Extensive study on the enhanced flow boiling of eco-friendly refrigerants", 19th ISME Conference on "Advances in Mechanical Engineering(Mechanical System and Sustainability)" ,December, 20-22, 2018, organized by Dr. B R Ambedkar National Institute of Technology(NIT), Jalandhar, Punjab.

13. S Ray, A Kundu, N Mandal, "The numerical design of earth -to-air heat exchanger: An extensive study", 19th ISME Conference on "Advances in Mechanical Engineering(Mechanical System and Sustainability)" ,December 20-22,2018, organized by Dr. B R Ambedkar National Institute of Technology(NIT), Jalandhar, Punjab.

14. A Ghara, N Mukhopadhyay , "A cost Effective Management study of the North Bengal Tea Industries", 1st International Conference on Thermal Engineering & Management Advances (ICTEMA 2020), organized by Department of Mechanical Engineering, Jalpaiguri Government Engineering College, West Bengal, India.

FDP/STTP

Mr.Sudipta Ghosh

"The Art & Craft of Scientific & Technical Writing: from A to (almost) Z", Organized by: Maulana Abul Kalam Azad University of Technology (MAKAUT), Haringhata, Nadia, West Bengal, India, November 2-6, 2020

Soupayan Mitra // ME Dept // JGEC
Paper Published in 2020 and one in Conference

1. 'Selecting the best mobile model by applying AHP-COPRAS and AHP-ARAS decision making methodology'.
Authors : Shankha Subhra Goswami and Soupayan Mitra
'International Journal of Data and Network Science', Vol: 4, Issue: 1, page : 27-42, 2020 (Print published),
DOI : 10.5267 /j.ijdns.2019.8.004. Licensee : Growing Science, Canada.

2. 'A comprehensive study of Weighted Product Model for selecting the best laptop model available in the market'.
Authors : Shankha Shubhra Goswami, Dhiren Kumar Behera, Soupayan Mitra
'Brazilian Journal of Operations & Production Management', Vol: 17, No. 2, page: 1-18, June'2020.
DOI : https://doi.org /10.14488/BJOPM.2020.017.

3. 'Effect of process parameters on machining EN 47 spring steel through WEDM'.
Authors : Sudip Banerjee, Bikash Panja and Soupayan Mitra
"Emerging Materials Research" International Journal. Vol. : 9, Issue : 3, page: 1-9. DOI : 10.1680/jemmr.19.00075

4. 'An Integrated Approach of AHP and TOPSIS for Optimum Selection of Renewable Energy Source'.
Authors : Monayem Parvej, Soupayan Mitra and Shankha Shubhra Goswami
'International Journal of Industrial Engineering and Design', Vol. 6, Issue 2, 2020, www.journalspub.com

5. 'Supplier Selection Problem by Applying Additive Ratio Assessment (ARAS) Methodology'
Authors : Shankha Shubhra Goswami, Dhiren Kumar Behera, Soupayan Mitra
'International Conference on Thermal Engineering and Management Advances
(ICTEMA-2020)', Jalpaiguri (JGEC), 19-20 December'2020, page: 11-16,
Paper number : PM-151/ICTEMA2020

Internation Conferences

Shankha Shubhra Goswami, Dhiren Kumar Behera, Soupayan Mitra
'Supplier Selection Problem by Applying Additive Ratio Assessment (ARAS) Methodology''International Conference on Thermal Engineering and Management Advances (ICTEMA-2020)',
Jalpaiguri (JGEC), 19-20 December'2020, page: 11-16, Paper number : PM 151/ICTEMA2020

List Of Publications

1. Hossain, Md N Ghosh, K and Manna, N K 2020,"A Multiphase Model for Determination of Minimum Circulation Ratio of Natural Circulation Boiler for a Wide Range of Pressure", International Journal of Heat and Mass Transfer, Vol 150 119293 ..
2. Hossain, Md N Ghosh, K and Manna, N K 2020,"Two phase thermo hydraulic model of a 210 MW thermal power plant boiler for designing the riser downcomer circuit", Thermal Science and Engineering Progress, Vol 18 100537 Doi https ::/doi org/ 10 1016 /J TSEP 2020 100537.
3. Hossain, Md N Ghosh, K and Manna, N K 2020,"A two phase flow model for thermal design of the riser downcomer system pertaining to a 600 MW subcritical boiler", Journal of thermal science and engineering applications, TSEA 19 1297 pp 1 58 DOI:10 1115 1 4047563.
4. Hossain, Md N Ghosh, K and Manna, N K 2019 Thermo Geometric Design Proposition of a Small Unit Two phase Thermosyphon Steam Boiler Municipal Waste Fired Boiler (pp 227 232 Proceedings of the 25th National and 3rd International ISHMT ASTFE Heat and Mass Transfer Conference (IHMTC 2019 DOI 10 1615 /IHMTC 2019 390 ISBN 978 1 56700 496 0 IIT Roorkee

INTERNATIONAL CONFERENCE

1. "A Cost Effective Management Study of North Bengal Tea Industries", A Ghara, N Mukhopadhya, 1st International Conference on Thermal Engineering & Management Advances (ICTEMA 2020), organized by Department of Mechanical Engineering, Jalpaiguri Government Engineering College, West Bengal, India, Volume -1, Page-(30-35), 28.06.2020

SUDISH RAY [SENIOR RESEARH FELLOW] (International/National conferences)

1. Historic Encroachment of Flow Boiling in HVAC by S Ray, A Kundu and N Mandol, International Conference Advancements in Mechanical Engineering (ICAME 2020), January 16-18, 2020, Aliah University -Kolkata.
2. Eco-Friendly Refrigerants' Performances in HVAC, by S Ray, A Kundu and N Mandol, International Conference on Energy and Sustainable Development(ICESD 2020), February 14-15, 2020, Jointly organized by Jadavpur University and The Institution of Engineers India, Kolkata
3. An Extensive Study on Historic Development of Refrigerants, by S Ray, A Kundu and N Mandol, International Conference on Advances in Management and Technology (ICAMT 2020), November 06-07, 2020, Jointly Organized by Sadabai Raisoni Women's College , Mazedan International Research Academy and G H Raisoni School of Business Management, Nagpur

Dr. Arijit Kundu (International/National Conferences)

1. "An Extensive Literature on Flow Boiling", International Conference on Thermal Engineering and Management Advances (ICTEMA 2020), 19-20 December, 2020 Organized by Jalpaiguri Government Engineering College, Jalpaiguri.
2. "Earth-Air Heat Exchanger - An Extensive Study", International Conference on Thermal Engineering and Management Advances (ICTEMA 2020), 19-20 December, 2020 Organized by Jalpaiguri Government Engineering College, Jalpaiguri.
3. "An Extensive Study on Historic Development of Refrigerants", International Conference on Advances in Management and Technology (ICAMT 2020), November 06-07, 2020, Jointly Organized by Sadabai Raisoni Women's College , Mazedan International Research Academy and G H Raisoni School of Business Management, Nagpur
4. "Eco-Friendly Refrigerants' Performances in HVAC", International Conference on Energy and Sustainable Development(ICESD 2020), February 14-15, 2020, Jointly organized by Jadavpur University and The Institution of Engineers India, Kolkata
5. "Historic Encroachment of Flow Boiling in HVAC", International Conference Advancements in Mechanical Engineering (ICAME 2020), January 16-18, 2020, organized by Aliah University -Kolkata.
6. "Boiling Performances of Efficient Eco-friendly Refrigerants", National Conference on Advances in Energy Efficient Technologies (NCAEET-2019), March - 03, 2019, organized by Marian Engineering College, Kazhakuttom, Thiruvananthapuram, Kerala.
7. "New Emergent Refrigerants' Performance in Flow Boiling: An Extensive Study", National conference "Trends and Advances in Mechanical Engineering (TAME-2019)",February15-16, 2019, organized by Kalyani Government Engineering College, Kalyani, West Bengal.
8. "An Extensive study on the enhanced flow boiling of eco-friendly refrigerants", 19th ISME Conference on "Advances in Mechanical Engineering(Mechanical System and Sustainability)" ,December, 20-22, 2018, organized by Dr. B R Ambedkar National Institute of Technology(NIT), Jalandhar, Punjab.
9. "The numerical design of earth -to-air heat exchanger: An extensive study", 19th ISME Conference on "Advances in Mechanical Engineering(Mechanical System and Sustainability)" ,December 20-22,2018, organized by Dr. B R Ambedkar National Institute of Technology(NIT), Jalandhar, Punjab.

FDP /STTP:

1. Attended AICTE ATAL One week online FDP from 24-28 August, 2020 on "Energy Engineering" held in Syed Ammal Engineering College.
2. Attended AICTE approved One week online FDP from 5-10 October, 2020 on "Optimization technique: Recent trends and applications in Engineering" held in MCKV Institute of Engineering.

Mr. Asim Roy (FDP/STTP/SEMINAR)

1.Participation in Five days (from 13.07.2020 to 17.07.2020) Faculty Development Program on " SENSORS AND THEIR APPLICATION" Organized by " VENAMA INSTITUTE OF TECHNOLOGY, Bengaluru"
2.Participation in Five days (from 14.09.2020 to 19.09.2020) Hands-on Faculty Development Program on "Artificial Intelligence using Python" Organized by "Government College of Engineering and Ceramic Technology",
3.Participation in Three days (from 09.07.2020 to 11.07.2020) Faculty Development Program on " 5G and Its Impact on Internet of Things" Organized by " VENAMA INSTITUTE OF TECHNOLOGY, Bengaluru"
4.Participation in Two days (from 04.11..2020 to 05.11.2020) Webnair Program on " Be Safe on Cyber Space" Organized by " KLS Gogte Institute of Technology", Belagavi, Karnataka-590008.
5. Participation in Two days (from 06.11..2020 to 7.11.2020) Hands-on Training Program on " Data VisulizationTechniques in Python" Organized by " R.R. Institute of Technology", Bengaluru, Karnataka..
6.Participation in One day Webnair Program (12th Nov 2020) on " Current Trends in Ethical Hacking & Microsoft International Certification" Organized by "" R.R. Institute of Technology", Bengaluru, Karnataka.
7.Participation in awareness program (20th August 2020) on "IOT – Data Management and analysis bt using KAFKA" Organized by " VENAMA INSTITUTE OF TECHNOLOGY, Bengaluru"
8.Participation in One week STTP program (From 4th January 2021 to 9th January 2021) on "Additive Manufacturing for Medical and Aerospace Applications" Organized by Department of Mechanical Engineering of " Shri Vishnu Engineering College for Women, Bhimavaram, A.P. " Sponsored by AICTE
9.Participation in Ten days (from 21.11..2020 to 30.11.2020) Certification Program on " Machine Learning Techniques and its Application for the Bignners" Organized by " R.R. Institute of Technology, Chikkabanavara, Bengaluru.
10.Participation in Two days (From 17.12..2020 to 18.12.2020) Workshop on "IOT Based Smart Building Automation using Thinker CAD & Its Application " Organized by " R.R. Institute of Technology, Chikkabanavara, Bengaluru.
11.Participation in online "Special Lecture Series in Mathematics" on 19.12.2020" Organized by " Netaji Subhas Open University"

Dept. of Civil engineering

Conferences (SCI/SCOPUS/Web of Science/Internationally renowned Conference)

1. Krishna, A.M., and Biswas, A. (2020). Performance of Geosynthetic Reinforced Shallow Foundations (Theme Lecture). Indian Geotechnical Conference (IGC-2020), Andhra University, Vizag, India (e-proceedings)(http://igc2020vizag.com/)
2. Biswas, A., and Sarkar, H. (2020). Numerical Study of Multi-Layered Geocell Confined Pavement Subgrade. Indian Geotechnical Conference (IGC-2020), Andhra University, Vizag, India (e-proceedings) (http://igc2020vizag.com/).
3. Biswas, A., Mandal, U., and Chakraborty, A. (2020). Experimental Study on Parametric Influences of Stone Column Reinforced Foundation Systems. Indian Geotechnical Conference (IGC-2020), Andhra University, Vizag, India (e-proceedings) (http://igc2020vizag.com/).

Short term Course / Workshops / Seminar / Conferences Attended:

1. Analysis and Design of Reinforced Concrete Combined Footings - NITTTR Kolkata (ICT-165) (02/11/2020 – 06/11/2020)
2. Structural Design Aspect of Shallow Foundation – NITTTR Kolkata (ICT-153) (12/10/2020 – 16/10/2020)
3. Strategic Civil Infrastructure – AICTE Training and Learning (ATAL) Academy (IIT Hyderabad) (01/10/2020 – 05/10/2020)

SAMIR DAS

Published paper as co-author titled "An Integrated Solid Waste Management System for Minimization of Greenhouse Gas Emission: A Case Study of Kolkata" in International Conference on Water Energy and Environmental Sustainability (WEES) 2020, held on January at National Institute of Technology, Durgapur, India.

FDP/STTP

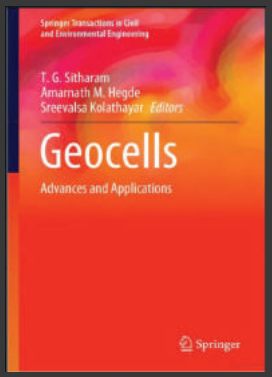
Integrated Waste Management for a Smart City, IIT Kharagpur, NPTEL, SWAYAM, 12 weeks

Prithwish Roy

COURSE NAME : NATIONAL INNTIATIVE FOR TECHNICAL TEACHERS TRAINNING
ORGANIZER: NITTTR, Chennai
1. Module 2_ Professional Ethics & Sustainability
2. Module 4_ Instructional Planning and Delivery
DURATION: 8 WEEKS

Publications – Book Chapters:

Krishna, A.M., Biswas, A., Prasath, S.B, and Dash, S.K. (2020). Performance of geocell-reinforced foundations with clay subgrades of varying strength (Chapter 6). Geocells: Advances and Applications. Eds. Sitharam, T.G., Hegde, A., and Kolatyar, S. Springer Transactions in Civil and Environmental Engineering
(https://link.springer.com/chapter/10.1007%2F978-981-15-6095-8_6)



Dept. of Electrical engineering
List of publications

1. Goutam Kumar Panda, Pradip Kumar Saha, Mousam Ghosh, Swarnankur Ghosh, Suman Ghosh. Dynamic Model of Infected Population Due to Spreading of Pandemic COVID-19 Considering Both Intra and Inter Zone Mobilization Factors with Rate of Detection. Elsevier Journal of Chaos, Solitons & Fractals (An international SCI indexed journal of nonlinear science with an Impact Factor of 3.764)
2. Sriparna Banerjee, Dhiman Banerjee, Provas Kumar Roy, Pradip Kumar Saha and Goutam Kumar Panda. A Probabilistic Optimal Power Flow in Wind-Thermal Coordination Considering Intermittency of the Wind. International Journal of Energy Optimization and Engineering (IJEOE) 10(1) Copyright: © 2021 |Pages: 29 DOI: 10.4018/IJEOE.2021010105
3. RupamChaki, Mousam Ghosh, Goutam Kumar Panda, Pradip Kumar Saha, Anubrata Dey and Atanu Banerjee. An Improved Dimmable LED Driving Scheme with Low Flicker Metrics for Low Voltage Application. Received 20 November 2019, Revised 21 May 2020, Accepted 25 May 2020, Available online 8 June 2020. Electric Power Systems Research(Elsevier) Impact Factor-3.211 Volume 187, October 2020, 106433 https://doi.org/10.1016/j.epsr.2020.106433
4. Indrajit Koley, Asim Datta, Goutam Kumar Panda. Wind Energy Infiltrated Multi-Area Power System:Optimized 2-DOF-FOPID Controller for LFC. INTERNATIONAL JOURNAL of RENEWABLE ENERGY RESEARCH I. Koley et al., Vol.10, No.2, June, 2020

UJJAL DEY

1. FDP on Real Time Hardware-in-the-Loop (HIL) Simulation for Power Electronics & Power Systems, organized by Department of Electrical Engineering, Rajkiya Engineering College Mainpuri in association with OPAL-RT Technologies & IEEE STB REC MAINPURI, 22nd June-26th June,2020
2. One Week Faculty Development Program on Research and Technical Challenges in Energy and Power System (RTCEPS 2020), organized by Electrical Engineering Department of Narula Institute of Technology, 29th June -04th July,2020
3. 5 Day International FDP on Emerging Trends in Sensors, Security and Smart Automation Systems (ETSSSAS 2020), Department of Electrical Engineering B. P. Poddar Institute of Management & Technology, 8th July - 12th July, 2020
4. AICTE Sponsored Six days Online Short-Term Training Program (STTP) on Digital Controllers for Power Electronics Application, Phase-I, Syed Ammal Engineering College, 13th July-18th July, 2020
5. Online Cyber Safety & Security Training for all Teachers/Staff of different Institutes/College under Directorate of Technical Education and Training, West Bengal, 14th July,2020 -17th July,2020
6. ICT Mode STTP on "Pattern Recognition: Theory and Applications (ICT63)" NITTTR Kolkata , 20th July,-24th July, 2020
7. ICT Mode STTP on "Electrical and Electronics Circuit Analysis using MATLAB (ICT76)", NITTTR Kolkata, 27th July -31st July, 2020
8. AICTE Sponsored Short Term Training Programme on Recent Trends in Internet of Things (IoT) and Embedded System Based Monitoring and Control of Distributed Generation, Narula Institute of Technology, 10th August- 15th August, 2020
9. RTU (ATU) TEQIP-III* sponsored online FDP in association with *IEEE Rajasthan Sub Section* on *Machine Learning & Deep Learning Techniques with its Applications*, 18th August – 22nd August, 2020
10. AICTE (ATAL) Vehicle Electrification and Smart Grid: A Path Towards Sustainable Future, 24th August – 28th August, 2020
11. AICTE (ATAL) Alternate Energy Resources, 1st Sept -5th Sept, 2020
12. Two Weeks FDP on Moodle - IIT Bombay and Prabhat Kumar College, MHRD, PMMMNMTT, 1st Sept - 15th Sept, 2020

Shubhasish Sarkar

1. FDP on "Earth & Environment Responses During Covid-19", Department of Environmental Sciences, Savitribai Phule Pune University, Pune, 11/07/2020-17/07/2020.
2. Online Teachers & Government officials training on "Cyber Safety & Security ", Cyber Security Centre of Excellence, West Bengal in association with Information Security Education and Awareness under Ministry of Electronics and Information technology, Govt. of India, 14/07/2020-17/07/2020.
3. STTP through ICT mode on "Pattern Recognition: Theory and Applications", National Institute of Technical Teachers Training and Research, Kolkata, 20/07/2020-24/07/2020.
4. STTP through ICT mode on "Electrical and Electronics Circuit Analysis using MATLAB", National Institute of Technical Teachers Training and Research, Kolkata, 27/07/2020-31/07/2020.
5. FDP on "Quantitative Methods for Data Analysis", Teaching Learning Centre- Ramanujan College, University of Delhi, 12/08/2020-25/08/2020.
6. FDP on "Sustainable Technology- Innovation and Foundation for Future", Haldia Institute of Technology, 12/08/2020-16/08/2020.
7. Online FDP on "Soft Computing Techniques", ATAL Training and Learning Academy, AICTE, 02/11/2020-06/11/2020.

SEMINAR ATTENDED

Lecture attended on "Experimentation in Science and Engineering- How to Execute in a Structured Manner "-by Prof Sivaji Chakravorti on 24/09/2020.

SUMANTA DUTTAMUNSHI (FDP/STTP)

1. Online STTP on Electric Vehicle: Technology, challenges and opportunities for Integration of Renewable Resources in India, R.M.K.ENGINEERING COLLEGE, 6 Days, 2020.
2. ST.VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY , Online STTP on Applications of MATLAB in Mathematics, Science and Engineering, 3 days, 2020.
3. 5 days online FDP of SJB INSTITUTE OF TECHNOLOGY on Future Energy Trends & it's Impact, 2020.
4. 5 days online STTP on power system restructuring & renewable energy integration of Bharati Vidyapeeth college of Engineering, 2020.

Dept. of Electronics and Communications
List of publications

JOURNALS

1. Swagata Mandal, Amlan Chakrabarti. "Latency optimized clustered error Mitigation for multi-level Flash memory using Product code". Microelectronics Reliability, Elsevier, 2020 (https://www.sciencedirect.com/science/article/abs/pii/S002627142030901X).
2. Swagata Mandal, Amlan Chakrabarti, Srinivasu Bodapati. "Clustered Error Resilient SRAM based Reconfigurable Computing Platform". IEEE Transactions on Aerospace and Electronic Systems, 2020 (Accepted for publication).
3. N. Mondal, S. Mandal, and M. C. Mandal, "FPA based optimization of Drilling Burr using Regression Analysis and ANN Model", Measurement, Vol. 152(2020), pp. 1-10, 2020, ISSN:0263-2241, https://doi.org/10.1016/j.measurement.2019.107327 [SCIE indexed- Impact Factor: 2.79 (2018), Publishers: Elsevier (02/2020)]

Webinar with Foreign Premier University

CONFERENCES

1. Sreetama Sarkar, Suman Sau, Rourab Paul, Saptarshi Mitra, and Swagata Mandal. "FPGA based Firmware Design: the Routing of Micro fluid Droplet based on Lee's Algorithm". In International Conference on Advances in Distributed Computing and Machine Learning,2021,Bhubaneswar, India (Accepted for Publication)

2. N. Mondal, S. Mandal, M. C. Mandal, S. Das, B. Halder, "ANN-FPA Based Modelling of Drilling Burr and Optimization of It Using RSM and GA", Accepted in 15th Global Congress on Manufacturing and Management (GCMM-2020), Liverpool.

INTERNATIONAL CONFERENCES

1. Alokesh Mondal, Anup Dey and Biswajit Maiti, "Effect of strain on Density of States and Directional Dependent Electron Effective Mass of two dimensional intrinsic Graphene", 2018 IEEE Electron Devices Kolkata Conference (EDKCON), 70-74, 2018

2. Alokesh Mondal, Biswajit Maiti and Anup Dey, "Effect of strain on Quantum Capacitance of two dimensional intrinsic Graphene", 2018 IEEE Electron Devices Kolkata Conference (EDKCON), 75-79, 2018

3. Alokesh Mondal, Anup Dey and Biswajit Maiti," Different approach to the analysis of strain induced changes in the quantum capacitance of graphene", International Conference on Emerging Technologies for Sustainable Development (ICETSD'19), 414-417,2019

4. Alokesh Mondal, Biswajit Maiti and Anup Dey, "Analysis of transport parameters of 2D intrinsic graphene under strain", International Conference on Emerging Technologies for Sustainable Development (ICETSD'19),390-393,2019

Book Chapter: Suman Sau, Paresh Baidya, Rourab Paul, Swagata Mandal. "Binary Field Point Multiplication Implementation in FPGA Hardware". Intelligent and cloud computing, Springer, 2020

DR. SUDIP MANDAL
FDP/STTP Participation Details

1. Participate in Short Term Training Program on "Engineering Optimization using MATLAB" at NITTTR- Kolkata. Duration: 23/12/2019 to 03.01.2020.
2. Participated One week Online Faculty Development Program on "Advancement in Renewable Energy System for Sustainable Development" organized by EE and ETC Department, Government College of Engineering, Nagpur from 30/06/2020 to 04/07/2020.
3. Successfully attended Workshop (webinar) on "Best Practice for Teaching Online" organized by Surendranath College for Woman, Kolkata and ABP Education on 04/07/2020.
4. Successfully participated Five Day International online FDP on "Emerging Trends in Sensors, Security and Smart Automation Systems (ETSSSAS 2020)" organized by Department of Electrical Engineering, B. P. Poddar Institute of Management & Technology, Kolkata from 08/07/2020 to 12/07/2020.

5.Successfully participated in Five days online Faculty Development Program on "Sensors & Their Applications" held from 13/07/2020 to 17/07/2020 organized by Vemana Institute of Technology in association with IEEE Sensors Council, Bangalore Section.
6.Successfully participated in online Five days International Faculty Development Program on "Recent Trends and Application on Next Generation Computing Technology" held from 20/07/2020 to 24/07/2020 organized by Hindusthan Institute of Technology in collaboration with Computer Society of India (CSI).
7.Successfully participated in online Three days Online Short Term Training Program on "Application of MATLAB in Mathematics, Science and Engineering" held from 15/09/2020 to 17/09/2020 organized by ST. Vincent Palloti College of Engineering and Technology in collaboration with The Institute of Engineers (India).
8.Successfully participated in 1 week Short Term Training Programme through ICT Mode on "Induction Training - Phase II" organised by NITTTR, Kolkata from 03/08/2020 to 07/08/2020.
9.Successfully participated in one Week HANDS-ON Faculty Development Program on "Artificial Intelligence using Python", held from 14-09-2020 to 19-09-2020 organized by Government College of Engineering And Ceramic Technology in association with Brainovision Solutions India Pvt.Ltd.
10.Successfully participated in Two weeks Short Term Training Programme through ICT Mode on "Induction Training (Phase I and Phase II)" organised by NITTTR, Kolkata from 05/10/2020 to 16/10/2020.

Seminar/ Conference/Webinar Participation Details

1. Organizing Committee member for The International Conference on Frontiers in Computing and Systems (COMSYS-2020), Organized by CSE and ECE Dept, Jalpaiguri Government Engineering College, Jalpaiguri on 13/01/2020-15/01/2020.
2. Successfully attended Webinar for Faculty Development Program on "Outcome Based Education Software" organized by VMEDULIFE Software Service on 11/06/2020.
3. Successfully attended Webinar on "Design- Past, Present and Future" organized by Dwarkadas J. Sanghvi College of Engineering, Mumbai on 13/06/2020.
4. Successfully attended Webinar on "Engineering Tomorrow: New Fields, Newer Prospective" organized by ABP Education on 13/06/2020.
5. Successfully attended Webinar on "Design Education: The New Future" organized by ABP Education on 27/06/2020.
6. Organizing Committee member for "Two Days Webinar on Emerging Trends in Electronics and Communication Engineering" at Department of Electronics and Communication Engineering, Jalpaiguri Government Engineering College, Jalpaiguri, during 29/06/2020 to 30/06/2020 through Google Meet online platform.

Invited Lecture/Speakers Details

1. Deliver a invited lecture for a Webinar on "Engineering Application on Artificial Neural Network-Beginners Level", organized by Global Institute of Management & Technology, Krishnagar on 12/07/2020.

Professional Course Details

1. Successfully completed "COVID-19 Contact Tracing" an online non-credit course authorized by Johns Hopkins University and offered through Coursera on 07/06/2020.
2. Successfully participated in online course on "Remote Sensing and Digital Image Analysis" conducted by Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun during 17-08-2020 to 11-09-2020.

Alokesh Mondal, Assistant Professor of ECE department, Jalpaiguri Government Engineering College, Jalpaiguri,Pin-735102

List of Short Term Training Programme (STTP) from 2019 to 2020

Sl. no.	Conducting Mode of the STTP	Organizer of the STTP	Reference Number	Title of the Programme	Duration of the STTP	Programme Coordinator
1.	Offline Mode	NITTTR,Kolkata	NITTTR-K/STTP/-CU78/ Dated:02.09.2019	Topics in Data Structures and Algorithms	14/10/2019-25/10/2019 (2 Weeks)	Dr. Samir Ray
2.	Online Mode	Dept. of ECE, Vemana Institute of Technology, Bengaluru-560034	No	Sensors & Their Applications	13/07/2020 to 17/07/2020 (5days)	Dr. Chandrashekar S M Professor & Head, Dept. of ECE
3.	Online Mode	Dept. of IT, Hindusthan Institute of Technology, Tamilnadu	No	Recent Trends and Application of Next Generation Computing Technologies.	20.07.2020 to 24.07.2020 (1week)	Mr.B.Manikandan, Mr.T.Senthilkumar
4.	Online ICT Mode(ICT83)	NITTTR,Kolkata	NITTTR-K/ICT/2020-21/ICT83 Dated: 30/07/2020	Induction Training-Phase II	03.08.2020 to 07.08.2020 (1week)	Dr. Urmila Kar
5.	Online Mode	St. Vincent Pallotti College of Engineering and Technology,Nagpur-441108	No	Applications of MATLAB in Mathematics, Science and Engineering	15.09.2020-17.09.2020 (3days)	Dr Nitin Dhote,-Head of Dept. of Electrical Engineering
6.	Online ICT Mode(ICT150)	NITTTR,Kolkata	NITTTRK/ICT/2020-21/ICT150 Dated: 01/10/202	Induction Training (Phase I and Phase II	05/10/2020 to 16/10/2020 (2weeks)	Dr. Urmila Kar
7.	Online ICT Mode(ICT162)	NITTTR,Kolkata	NITTTRK/ICT/2020-21/1CT162 Dated: 15/10/2020	Modern Office Management	19/10/2020 to 23/10/2020 (1 Week),	Sukanta Kumar Naskar
8.	Online ICT Mode(ICT181)	NITTTR,Kolkata	NITTTR-K/ICT/2020-21/ICT181 Dated: 06/11/2020	Fundamental and Applications of Nanomaterials	09/11/2020 to 13/11/2020 (1 Week),	Subrata Mondal
9.	Online ICT Mode(ICT204)	NITTTR,Kolkata	NITTTRK/ICT/2020-21/ICT204 Dated: 25/11/2020	Object Oriented Design & Programming in C++	30/11/2020 to 11/12/2020 (2 Weeks)	Rajeev Chatterjee & Samir Roy

Dept. of Computer Science engineering
List of publications

1. Shiv Ram Dubey, Soumendu Chakraborty, Swalpa Kumar Roy, Snehasis Mukherjee, Satish Kumar Singh, Bidyut B. Chaudhur. diffGrad: An Optimization Method for Convolutional Neural Networks. IEEE Transactions on Neural Networks and Learning Systems, vol. 31, no. 11, pp. 4500-4511, Nov. 2020, doi: 10.1109/TNNLS.2019.2955777.

2. Swalpa Kumar Roy, Gopal Krisha, Shiv Ram Dubey, Bidyut B. Chaudhuri. HybridSN: Exploring 3D-2D CNN Feature Hierarchy for Hyperspectral Image Classification. Journal of Geoscience and Remote Sensing Letters, vol. 17(2), pp. 277-281, February 2020, DOI:10.1109/LGRS.2019.2918719.

3. Swalpa Kumar Roy, Subhrasankar Chatterjee, Siddhartha Bhattacharyya, Bidyut B. Chaudhuri. Lightweight Spectral-Spatial Squeeze-and- Excitation Residual Bag-of-Features Learning for Hyperspectral Classification. IEEE Transactions on Geoscience and Remote Sensing, Jan. 2020, DOI:10.1109/TGRS.2019.2961681.

4. Swalpa Kumar Roy, Suvojit Manna, Tiecheng Song, Lorenzo Bruzzone. Attention-Based Adaptive Spectral–Spatial Kernel ResNet for Hyperspectral Image Classification. IEEE Transactions on Geoscience and Remote Sensing, December, 2020, doi:10.1109/TGRS.2020.3043267.

5. Swalpa Kumar Roy, Sayantan Das, Tiecheng Song, Bhabatosh Chanda. DARecNet-BS: Unsupervised Dual Attention Reconstruction Network for Hyperspectral Band Selection. IEEE Geoscience and Remote Sensing Letters, August 2020, DOI:10.1109/LGRS.2020.3013235.

6. Mercedes E. Paolett, Juan M. Haut, Swalpa Kumar Roy, Eligius M.T. Hendrix. Rotation Equivariant Convolutional Neural networks for Hyperspectral Image Classification. IEEE Access 8 (2020): 179575-179591, DOI: 10.1109/-ACCESS.2020.3027776.

7. Dipak Kumar Ghosh, Shiv Ram Dubey, Swalpa Kumar Roy, Siddhartha Bhattacharyya, Bidyut B. Chaudhuri. Unconstrained Texture Classification using Efficient Jet Texton Learning. Journal of Applied Soft Computing, Elsevier, vol. 86, January 2020, DOI:10.1016/j.asoc.2019.105910.

8. Swalpa Kumar Roy, Shiv Ram Dubey, Subhrasankar Chatterjee, Bidyut B. Chaudhuri. FuSENet: Fused Squeeze-and-Excitation Network for Spectral-Spatial Hyperspectral Image Classification. IET Image Processing 14(8), pp. 1653-1661, June 2020, DOI:10.1049/iet-ipr.2019.1462.

Jhuma Dutta

COMSYS 2020, "Survey Paper:Different Important Quantum Cryptographic Protocol"

FDP/STTP

1. Course name-Artificial Intelligence using Python, Organizer-Government College of Engineering And Ceramic Technology, Duration-1 Week
2. Course name-Opportunities and Challenges in New Power Distribution Paradigm (OCNPDP) TEQIP-III, Organizer-NIT Silchar, Duration-1 Week
3. Course name-Power Electronics and Renewable Energy Integration in Smart Grid, Electric Vehicle (PEREISGEV 2020) TEQIP-III, Organizer-NIT Rourkela, Duration-1 Week
4. Course name-ICT Tools for Teaching and Learning, Organizer-NITTTR Kolkata, Duration-2 Weeks
5. Course name-Testing of Drinking Water and Ambient Air, Organizer-NITTTR Kolkata, Duration-2 Weeks

Dr. Subhas Barman

A. Das, A. Das, A. Datta, S. Si and S. Barman, "Deep Approaches on Malicious URL Classification," 2020 11th International Conference on Computing, Communication and Networking Technologies (ICCCNT), Kharagpur, India, 2020, pp. 1-6, doi: 10.1109/ICCCNT49239.2020.9225338.

ANIMESH HAZRA

Participated the Online Faculty Development Program(FDP) on Deep Learning for Visual Computing and Communication(DeLViCCo-20) organised by ECE Dept., NIT Silchar, Assam during 15-21 October' 2020 under the sponsorship of Electronics & ICT Academy, NIT Patna.

Dept. of Physics
List of publications

1. Arindam Saha, Souvik Ghose. Interacting Tsallis holographic dark energy in higher dimensional cosmology. The article with the following title is available in Astrophys Space Sci (2020) 365:98.

2. P. Das, Ushasi Datta, S. Chakraborty, A. Rahaman, M.J.G. Borge. Study of exotic decay of Cs isotope close to the proton drip line. Journal of Physics: Conference Series; 1643 (2020) 012127. doi: 10.1088/1742-6596/1643/1/012127.

Institutional Highlights

RESEARCH/SKILL DEVELOPMENT PROJECTS FUNDED BY GOVERNMENT ORGANIZATIONS

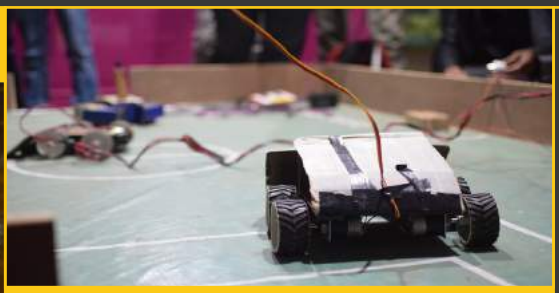
FUNDING AGENCY	PRINCIPAL INVESTIGATOR /CO-ORDINATOR	PROJECT TITLE	DURATION (IN MONTHS)	SANCTIONED AMOUNT IN LAKHS
DSTBT, Govt. of West Bengal	**Dr.Amitava Ray**	Green supply chain performance measurement: a comparative study of manufacturing organizations in West-Bengal	**36**	**14.3**
DSTBT, Govt. of West Bengal	**Dr.Arijit Kundu**	Heat transfer enhancement of inside finned tube flow boiling of environment friendly refrigerants	**36**	**14.08**
DSTBT, Govt. of West Bengal	**Dr.Arghadip Biswas**	Performance Evaluation of Sand/Stone Column in Clay under Varying Loading and Different Combinations	**36**	**15.16**
AICTE	**Dr.Santanu Das**	MODROB	**24**	**15.52**
AICTE	**Dr.Amitava Ray**	SPDP Centre	**36**	**12.36**

Campus Activities

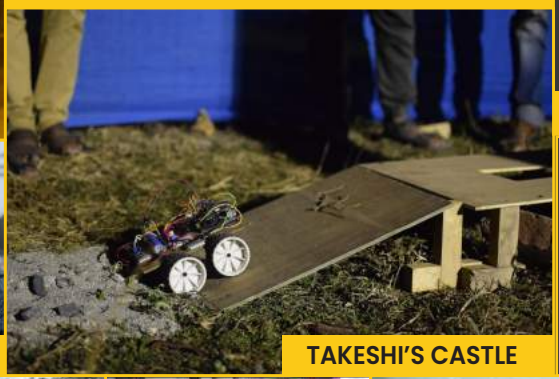
The Techno Management fest of JGEC is also the biggest Technical and management festival in the North Eastern Region spanning almost 3 days and hosts numerous events allowing the students to showcase their technical skills.
The one reason is why we don't call SRISTI just a Tech fest as it focuses on bringing out the young Entrepreneurs in the society apart from the various technical and innovative events which not only hosts a healthy competition but great prizes for the winner.

The 2020 SRISTI saw the start of another great event for inter college Robowars and was a grand success on the first time itself. Various colleges took part along with our own students who were focused on building their own Robocars for the event.

E-SPORTS



ROBO-SOCCER

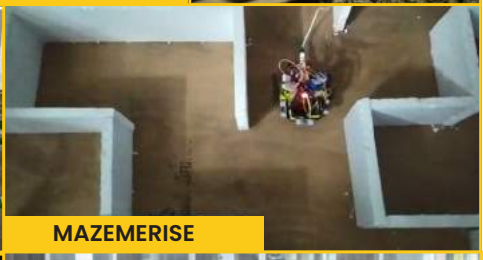


TAKESHI'S CASTLE

CIRCASM

SPUTNIK

ROTOLAYER



MAZEMERISE

CODE CHRONICLES

CLEANLINESS DRIVE

22ND January was one great day for the students and the entire college as well as this day marked the day for campus clean drive in which the students were given the responsibility to clean the campus. Numerous students came forward to clean their beloved campus on being called by the professors. The students were divided into groups with a group leader and were provided with brooms, cleaning sticks, masks and other necessary stuffs. Each group were given a separate area to clean by the end of the day the students were able to clean up a large part of our huge campus. Certificates and food were provided to the students who came forward ignoring the cold morn-

COMSYS 2020

COMSYS-2020 refers to the international conference on Frontiers of Computing and systems was hosted first time by the JGEC community organized by the Computer Science and Electronics and Communication Engineering department in the early January 2020 and was a grand success.

The main objective of COMSYS was to present the latest research and results of scientists related to Machine learning, Computational Intelligence Track, VLSI, Networks and Systems Track, Computational Biology Track, Security Track topics

The international conference was bestowed by the Research Papers and lectures from Eminent professors such as Punam K. Saha, Dariusz Plewczynski, Ananda Shankar Chowdhury and Jacek Sroka.

Papers were Also presented by some of our renowned professors as well.

After the Lockdown

"And then it was all Dark" as it seemed after the lockdown suddenly came upon everyone due to the pandemic situation. In spite of all that we continued to stick together and vowed not to lose our winning mentality.

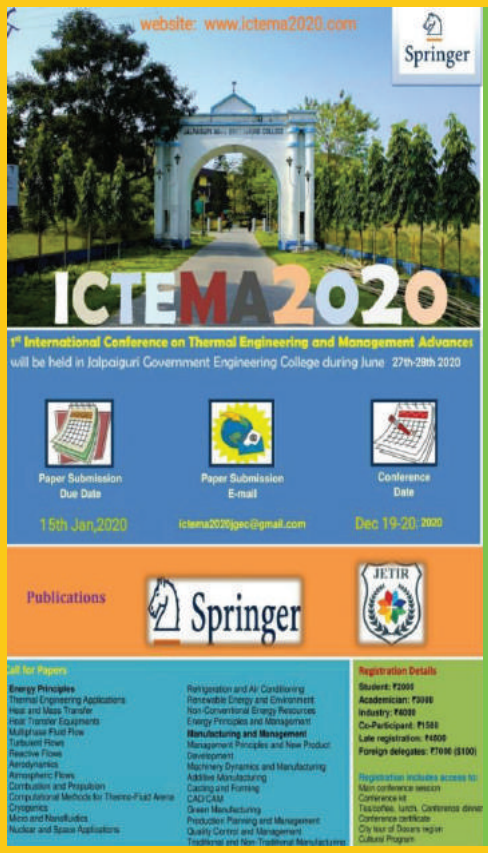
PLANTATION DRIVE

On 5th June we took a pledge to inspire everyone within our community and outside to plant at least one tree on the occasion of World Environment Day. Our Respected Principal sir, Dr. Amitava Ray shared a written template online to encourage our faculty, students and others to take the pledge and help make the world a greener place. This was supported by our students who also uploaded their videos on the internet showing that they support this noble initiative of planting trees and build a safer environment

JECLAT

For many years JGEC has been known to host the biggest cultural event in the entire North Eastern region by the name JECLAT which unfortunately could not take place due to the drastic changes in the situation and the dawn of devastating pandemic.

By far JECLAT had been the largest and the most extravagant Campus Activity that is hosted by the college. But apart from that we have tons of activities that were conducted in the campus in the short span of time before the Lockdown and through the internet during the Lockdown.



ICTEMA

ICTEMA or the International Conference on Thermal Engineering and Management Advances was actually scheduled to be held on 27-28 June but had to be shifted to 19-20th December due to the Pandemic situation.
Though we had a setback initially but the conference was a huge success with eminent speakers such as Prof. Suman Chakraborty, Prof J.P.meyer, Prof Swarnendu Sen, Prof. Koushik Ghosh, Prof. Sadhan Ghosh.
The conference saw our professors giving outstanding lectures and presenting papers that were accepted with high praise.
The conference ended on a high note with exciting cultural performances on the evening of 20th December.

ENTREPRENEURSHIP DEVELOPMENT CELL

EDC or the Entrepreneurship development cell has been working since day 1 to develop the managerial and the business minds among the students apart from the technical talents that they have. Though 2020 made us face severe hardship but EDC continued to do its work encouraging young entrepreneurs to learn and innovate new ideas and business set ups.
A career counselling event was organized in the Mid 2020's post lockdown to help the students build a hope in their mind despite the depressing situation of the global pandemic.
The event named EXPLORING YOUR CAREER CANVAS was presided by Sociotech entrepreneur and semiconductor engineer of Intel, Mr. sourav saha. Over a period of 90 minutes Mr. Saha talked about the various skillset to the students about building a career in an efficient way.
This event was a great success and was attended by almost 200 students from 7 different colleges of the country.

SPACE & AERONAUTICS ACTIVITY CENTER

March 2020 saw the official establishment of The Space Club of JGEC Community dedicated solely to increase the quality of knowledge regarding space science and increase the awareness of space research, tactics and current trends in the field envisioned by Final year Mechanical Engineering student, Dipanjan Roy and guided by our respected faculties.

Since its inception the Space club, termed as the Space and Aeronautics activity center, has spread its wings on several other colleges and different collaboration companies including colleges outside West Bengal. The students who have enrolled are taught about various fields of Space research and project development.

Two of the most significant events were the participation of the representatives of SAAC, JGEC in the ICIC 2020 and the organization of XPLORA- an online event whose main attraction was the last day live Webinar with eminent guests to provide keen insights to the current students.

SPORTS

There are several sports competition in intra hostel and inter hostel. In intra Hostel Competition Students of each hostels compete themselves in several sports. In Inter Hostel Competitions student from every hostels compete to win the games. There are several competitions of different games including indoor and outdoor games like cricket, football, badminton, table tennis, basketball, volleyball, chess, carom. Even many software games like call of duty, fifa and counter strike were also included based on the demands and popularity. These competitions generally occurred in the time between January to April, every year. In this year the sports were held before the lockdown and it was a great event as every year.

Student Activities

DECADE CELEBRATION,JYOTI

Jalpaiguri Government Engineering College hosts Night school for the poor and rural children from the local areas around the college, an initiative that is highly regarded all over West Bengal and is called Jyoti- A ray of Hope. This Nobel initiative was started by our students under the guidance of our faculties and alumni association in the year 2010. This year our small initiative turned 10 years and we celebrated it like anything. The Decade celebration of Jyoti indicated that we have been heading in the right direction all these years.

The 10 years' celebration was marked by various events throughout the day starting with inauguration and sit and draw competition followed by distribution of education essentials to the children. The cultural event of the celebration marked an end to the event that was declared a grand success. Local Newspaper Uttarbanga Sambad covered our celebration as well and we were happy that we had something to give back to the society as a whole community.

TREKKER'S CLUB

One of the most highly regarded clubs of our College is the Trekkers club that has been successful since its inception in the year 2002. Under the guidance of Sir Dipak Kumar kole this year also our Trekking team went to kedarkantha Trekk, Uttarakhand with almost 50 people on board, the highest number we have had till now. You can visit our website for all the details about the trekkers club and the expeditions that we have had over the years. We have recently launched a separate portal for our Trekkers club, you can always visit the site to get a keen insight about the vivid student life that we have in JGEC.

CODER'S CLUB

JGEC Coders Club play one of the most important roles in enhancing careers in the field of Software Development. In 2K19-20 JGEC coders club had teams in all four regionals of ACM ICPC. They were- Too_Slow_to_Code (Khargapur Regionals), ASM (Gwalior Regionals), Triple_$ (Amritapuri Regionals), Strivers (Kanpur Regionals). AARAMBH 2020 was a huge success where a total of 4797 submissions were made by 926 distinct users. Apart from various recognitions, Best women coder award was given to create a diversity in coding culture across the college. Members of Coders Club are placed in top IT companies like Amazon, GeeksforGeeks, Infosys, media.net, TCS Digital, IBM etc. Aman Srivastava and Raja Vikramaditya selected as interns in Amazon.

SECRETARY: SUBHASH SINGHA ROY (4th yr, CSE)
SHIVAM GUPTA (4th yr, CSE)

WAVES FLASHMOB

Wavezz is the official Dance club of JGEC and it has put out some great performances in our annual cultural fest from its formation. This year the club took a unique approach for the marketing of JECLAT and performed a flash mob for the first time in its history. The event happened prior to JECLAT 2020 at the Siliguri Vega Circle and was an instant hit on the internet. The very well trained dancers performed on various songs from solos to group performances. The videos of this great event kept resurfacing on the internet throughout the year and we were really proud of the extra-curricular talents that our students put forward apart from the quality education.

Student Achievements

We have diverse set of talented students who currently achieving really important things in various recognized places all over India. Some of the Achievements of our Current students have been given for you to get an insight on the talented bunch of young people we have in the JGEC community.

Of all the achievements one deserves special mention which is the winning of the Smart India Hackathon by our students in 2020 which made JGEC win the title 3 times in a row. Wow!! A hat trick already!! Congratulations to Team Slytherin for this outstanding victory that has helped the JGEC community add another feather to its Cap.

Next up is one of the brightest students of our college, Ayananta Dev, a current ECE final year student who has been the 2020 National Winner of Olymfreak, A startup idea/Marketing strategy competition hosted by IIM Bangalore. His team has won after competing with hundreds of teams that hail from 600+ business schools all over India. We are happy to have such talents in our college contributing to the summative development of our community in their own way.

Start up Ventures

1.We have all heard about the saying that time is money but few have actually realized it and put it to use. One of those who have understood it is Tanmay Barman, a current Computer Science Engineering Student of 3rd year who have started his own start up in Siliguri in this lockdown and their voluntary work of providing food to the poor workers of the tea gardens have already been covered by the Uttarbanga Sambad. Their Startup has been providing superior service to the people of North Bengal and we wish this young entrepreneur all the best for his future.

2.Another Entrepreneurial venture has been started by Daipayan Chakraborty, a current Electronics and communication engineering student of 3rd year, which is working as an engineering consultancy and services firm with its base in Kolkata. Daipayan along with Dipanjan Roy and another partner are all students of our College and we hope that they have a bright future ahead of them. Way to go Entrepreneurs!

Inventions, Research Papers and Conferences

Inventions, Patents and research papers are an inventors dream to create something new. our students have always tried to innovate and we have always tried to instill this mentality in them. Even though the pandemic hit us hard but it could not shun our community to continue striving towards excellence.

1.Ayan Bandopadhyay, 4th year student of the Computer Science Engineering department developed a software for the medium and small scale business in the country. He was researching on this with eminent professors from IIT kharagpur prof. Surjyakanti pal, Prof. Debashis Chakraborty, Research Scholar Debashis Mishra and Probharanjan Nayek. We hope that the software may pave new ways for the small scale business to grow and the young scientist may reach new heights of success.

INTERNSHIPS AND PLACEMENTS

Apart from this, our students have also secured great placements in companies like Cognizant and Hexaware and have enrolled in various internships that will help them develop their skills and gain experience for their future.
Some of the companies that our students are currently doing internships are Finstakes, Indian Frontier Railways, Nextlabs.
We have always tried to provide our students with a great college life apart from the education that they receive from us. The students also share the same passion and have helped to grow our community in various ways.

HIGHEST PACKAGES IN JGEC HISTORY!

media.net

30 lpa

SHIVAM GUPTA, CSE
BATCH 2021

JPMorganChase

36.5 lpa

SUDIPTO GHOSH, IT
BATCH 2021

media.net

30 lpa

RAJA VIKRAMADITYA, IT
BATCH 2020

INTERNSHIP AT

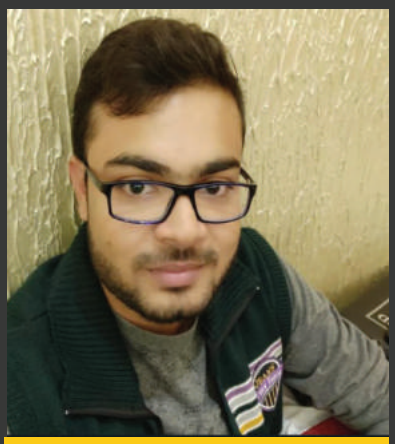
amazon

Subash Singha Roy, CSE
BATCH 2021

INTERNSHIP AT

amazon

AMAN SRIVASTAVA, CSE
BATCH 2020



INTERNSHIP AT

amazon

SAYAN BANERJEE, CSE
BATCH 2021

ALUMNI ACTIVITIES

We have a huge alumni association comprising of one of the most diverse set of past students of our college who are in constant contact with the college surroundings and the current students of the college. Every year the college and its students are greatly helped by its Alumni Association in various aspects. Similarly, there were several events that were hosted by the alumni association for the benefit of the college and its current students.

ICIC 2020

This year in 2020, the Alumni Assocation of JGEC along with CFI and SAAC, JGEC organized the 9th National level seminar and Intra College Innovation Challenge on 1st March 2020.The main purpose of the meet was to bridge the gap between Engineering Academia and Practices at different spheres of application. The various projects demonstrated there were given marks on the basis of their innovation and applicability by our eminent alumnies who were the judges for this event such as, Mr.Krishnendu Bhowmik, Mr. debabrata Banik and Mr.Biplab Kanti Roy. The best projects were awarded prize money and certificates as well with a conclusive speech by our respected alumnies.

SCHOLARSHIP PROGRAM 2020

The scholarship program initiated by the Alumni association, JGEC is one of the most Nobel deeds done by the alumnus to help the students in need with money for their education. This year the Alumni association provided almost 3.28 Lakhs scholarships to various students via several scholarship programs that the students had to enroll into. These scholarship programs are solely provided by the alumni association and the college is indeed grateful to have such wonderful alumni who are ready to help the college at all costs.

Sponsored by	Batch of Sponsor	Scholarship Initiation Year	Scholarship name	Name of Recipient	Value/ year
Bibhas Bhowmik	1985	2013	Confident & Professional Personality Scholarship (CPPS)	Chinmay Sarkar	10,000
				Dipankar Roy	10,000
Premangshu Ghosh	1979	2013	Power Engineering Scholarship (PES)	Joydeb Saha	12,000
Bramha Dev Sharma	1980	2014	Relief & Support Scholarship (RSS)	Viyali Bhattacharjee	18,000
Vaisali Biswas	Wife of Respected Late R.P Biswas	2014	Rama Prasanna Biswas - Goodwill Scholarship	Surojit Dey	10,000
Santanu Kumar Pal	1989	2014	Souvik Pal Memorial Scholarship	Nilanjana Das	18,000
				Soubhik Sen	18,000
Swapnik Saha	2006	2016	Mr. Dhananjoy & Mrs. Suchitra Saha Endowed Scholarship	Sanchita Panja	12,000
				Ramprasad Satpathi	12,000
				Sayoni Biswas	12,000
Ramkrishna Goswami	1991	2016	Shantilata Nityananda Memorial Scholarship	Sumana Dua	11,000
				Pabitra Bhol	11,000
				Vivek Roy	11,000
BiplobKanti Roy,	1996	2019	Late Milan Kanti Roy Memorial Scholarship	Rahul Kumar Gupta	10,000
Atandra Chatterjee	1980	2018	Ila Chatterjee Memorial Scholarship	Priyanka Majumdar	9,000
				Samrat Mitra	9,000
Arup Ghosh	1994	2018	A Jgecians' Tribute From Bangalore To Alma Mater	Kalan Pramanick	18,000
Debashis Mukherjee	1989	2020	A Tribute to Alma Mater By Debasish Mukherjee	Shreetama Mukherjee	12,000
Debish Mukherjee	1992	2020	Debdas Mukherjee Memorial Scholarship	Md Mahmood Ahmed	25,000
Subir Goswami	1981	2020	Sri Sukhendu Bikas Goswami Memorial Scholarship	Suman Dey	15,000
			Srimati Rani Goswami Memorial Scholarship	Sumita Bhattacharya	15,000
Batch of 1999	1999	2020	SMILES 99	Raju Das	10,000
				Subhajit Dutta	10,000
				Sudip Mahata	10,000
				Kiran Ghosh	10,000
				Durba Shil	10,000
Scholarship Platform: www.jgecalum.org				Total Amount of Scholarship	3,28,000

JGEC ALUMNI ASSOCIATION, KOLKATA

For the past few years Jalpaiguri Govt. Engineering College Alumni Association has been arranging a Science exhibition at Science city , Kolkata by the members of Centre For Innovation of the college and thereby offering the students an outstanding platform to display their skill and talent before a vast knowledgable cross srection of dignitaries from the industry and academic segment. Such exhibition was organised this year also on 5th January , 2020 at Science City, Kolkata on the occassion of 44th annual Get-together of the association. Besides others, the expenses on account of to and fro journey and accomodation of the participants at kolkata were also bourne by the association.

NEW AUDITORIUM PROVIDED A HELPING HAND, BY BECOMING A QUARANTINE CENTER FOR COVID-19

MEDIA COVERAGE

জলপাইগুড়ি সরকারি ইঞ্জিনিয়ারিং কলেজ

ক্যাম্পাস প্লেসমেন্টে মিলল ৩০ লক্ষ টাকার চাকরি

কোথায় কতজন
কগনিজ্যান্ট ৭২
টিসিএস ৩০
ইনফোসিস ১৬
পিডব্লিউসি ৫
এইচপিএল ২

পড়ুয়াদের আগ্রহ বাড়াতে পর্বতারোহণ নিয়ে আলোচনা সভা

নিজস্ব প্রতিনিধি, কলকাতা: পর্বতারোহণ, ট্রেকিং সম্পর্কে পড়ুয়াদের আগ্রহী করে তুলতে বিশেষ উদ্যোগ নিল জলপাইগুড়ি গভর্নমেন্ট ইঞ্জিনিয়ারিং কলেজ। এনিয়ে একটি আলোচনা সভার আয়োজন করেছিল জলপাইগুড়ি গভর্নমেন্ট ইঞ্জিনিয়ারিং কলেজের ট্রেকিং ক্লাব। সভায় উপস্থিত ছিলেন তিনবারের এভারেস্টজয়ী পর্বতারোহী পেম্বা শেরিং শেরপা, পাসাং রিটা শেরপা, অ্যাডভেঞ্চার স্পোর্টস বিশেষজ্ঞ সোমা মজুমদার পাল। পর্বতারোহণ নিয়ে নিজের অভিজ্ঞতার কথা পড়ুয়াদের সামনে তুলে ধরেন পেম্বা শেরপা। তিনি জানান, এর মধ্যে দিয়ে নেতৃত্বদানের ক্ষমতার পাশাপাশি দ্রুত সিদ্ধান্ত নেওয়ার ক্ষমতাও তৈরি হয়। পর্বতারোহণ, ট্রেকিংয়ের প্রস্তুতির জন্য কীভাবে তৈরি হওয়া উচিত, পড়ুয়াদের সেই বিষয়ে গুরুত্বপূর্ণ পরামর্শ দেন পাসাং রিটা শেরপা। উপস্থিত পড়ুয়াদের বিভিন্ন প্রশ্নের উত্তরও দেন তিনি। কলেজের ট্রেকিং ক্লাবের সভাপতি অধ্যাপক দীপঙ্কুমার কোলে বলেন, 'পড়াশুনোর পাশাপাশি পড়ুয়াদের পারিপার্শ্বিক বিভিন্ন চাপের সম্মুখীন হতে হয়। পর্বতারোহণ, ট্রেকিং সেই চাপ কাটিয়ে উঠতে সাহায্য করে। এই ধরনের অভিযানে অংশ নিলে পড়ুয়াদের মধ্যে একতাও বাড়ে।' • *নিজস্ব চিত্র*

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