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Authors: Vusat Afandiyev, Firangiz Gasimova

Paper Title: Problems of Urbanization of Azerbaijan

Abstract: In the article the appearance of cities, urban development, socio-economic development, the concentration of production, population and settlement, based on scientific and technological progress is the result of industrial production, is talking about the problems arising in the process of urbanization. The regulation of agglomeration that is the result of urbanization development in spite of its being of current importance is a poor investigated and difficult-to-resolve problem. The thorough changes which have occurred in the economic, social and political life of the country in the course of last years from the geographical - territorial, industrial point of view are such an important, diversified and dynamic processes that the scientific perception and research on demand of time of the new realities connected with them has turned to a burning problem. The special role of urbanization stems out from its origin of occurrence of urban environment. Social-economic, cultural and demographic settling expands its positions on the historical stages of evolution processes and is developed qualitatively and quantitatively. Integration and planning, town studies from the urbanization viewpoint is a subject of inquiry by different sciences - economy, economic-social geography as well as urban planners. Within the circle of their attraction power and surrounded by unitary areas the towns cause the occurrence of tight reciprocal relationships, integration processes and promotes the vanish of insulation, isolation typical for the past. Nowadays, the increase of city agglomerations and transport-economic relationships, disappearance of major differences between towns and villages promotes economic-social housing in the territorial and regional system as well as migration relationships. Historically, Baku city was placed in area of oil-and-gas fields and has been surrounded with areas of their operation. Now because of an arrangement of Baku city and adjoining regions, oil fields, and also more than 50 densely populated settlements of city type and the working settlements located in an environment of crossed roads, are present very much limited opportunities for its horizontal extensive growth. Such situation in the certain district limits free ground territories for seaside recreational zones and developments of the agricultural industry in the area of city councils of Baku and Sumgait, especially in districts with dense built-on and compactness of communication lines. The mentioned process is conducted outside of intensively-urbanized Baku and Sumgait and has no opportunity for using recreational zones and the ground areas. The primary purpose in this work is conducting a research of activity and interrelation of development of cities, urbanization and the migratory processes connected to it in a certain territorial system from the position of the interconnected and functional system of social and economic, economically - geographical, ecological, housing aspects. The given work which for the first time is devoted to geographical problems of development of the urbanization of cities of Azerbaijan Republic, does not reflect completely multilateral and volumetric problems in the given area.

Keywords: Settlement; Urbanization; Economic

References:

Authors: M. Ramakrishna, G. Naresh

Paper Title: Design of Multi-Machine Power System Stabilizers using Gravitational Search Algorithm

Abstract: Power system stabilizers (PSS) are used to generate supplementary control signals for the excitation system to damp electromechanical oscillations. This paper presents an approach based on the law of gravity and mass interactions called Gravitational Search Algorithm (GSA) fortuning the parameters of PSSs in a multi-machine power system. These stabilizers are tuned simultaneously to shift the lightly damped and undamped electromechanical modes of all plants to a prescribed zone in the s-plane. A multi objective problem is formulated to optimize a composite set of objective functions comprising the damping factor, and the damping ratio of the lightly damped electromechanical modes. The performance of the proposed PSS under different disturbances, loading conditions, and system configurations is investigated on New England 10-machine, 39-bus power system. Non-linear time domain simulation results are presented under wide range of operating conditions and disturbances at different locations to show the effectiveness of the proposed GSA based PSS and their ability to provide efficient damping of low frequency oscillations.

Keywords: Power System Stabilizer, Electromechanical Oscillations, Gravitational Search Algorithm, Multi-machine Power System.

References:
Cloud Computing is acquainted for its cost-effective on-demand services based on internet. The significant benefits of cloud services drive organizations and individuals to make hay by outsourcing data to cloud storages. Outsourcing data brings users’ an easy and economical way of data management and also relieves users’ from the burden of building and maintaining local data storage. However, data being residing in some third-party’s premises, users have no full control over their data which necessitates ensuring confidentiality and integrity of data stored in untrusted cloud storage servers. To verify the correctness of data in cloud storage, this paper proposes an efficient ECC based Provable Data Possession (EPDP) Protocol with data dynamics. The proposed protocol preserves confidentiality of data stored in cloud storage and allows data owner to verify the integrity of data without retrieving the whole original data. Also the protocol is designed to perform stateless auditing and supports data dynamics at block level retaining the same security assurance. Security and Performance analysis proves the proposed protocol to be secure and highly efficient for secure cloud storage.
Keywords: confidentiality, cloud data storage, data integrity, elliptic curve cryptography, integrity verification, secure storage

References:

Authors: Ahmed Saeed Obied, Hind Mouwafaq Taha

Paper Title: Noise Cancellation using NLMS Adaptive Filter

Abstract: This paper presents the simulation of noise canceller system which contains adaptive filter and using adaptive algorithm. The objective of noise cancellation is to produce the estimate of the noise signal and to subtract it from the noisy signal and hence to obtain noise free signal. This work basically focuses on using NLMS filter in noise cancellation. We used MatLab to simulate our adaptive filter.

Keywords: Noise canceller; adaptive algorithm; NLMS

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4. Md Zia Ur Rahman, , S. Khaja Mohedden, ; Dr. B V Rama Mohana Rao ; Y. Jaipal Reddy ; G.V.S. Karthik “Filtering Non-Stationary

Authors: K. K. Myithili, R. Parvathi

Paper Title: Chromatic Values of Intuitionistic FuzzyDirected Hypergraph Colorings

Abstract: A hypergraph is a set V of vertices and a set E of non-empty subsets of V, called hyperedges. Unlike graphs, hypergraphs can perform higher-order interactions in social and communication networks. Directed hypergraphs are much like directed graphs. Colors are used to distinguish the classes. Coloring a hypergraph H must assign at least two different colors to the vertices of every hyperedge. That is, no edge is monochromatic. In this paper, upper and lower truncation, core aggregate of intuitionistic fuzzy directed hypergraph (IFDHG), conservative K-coloring of IFDHG, chromatic values of intuitionistic fuzzy colorings, elementary center of intuitionistic fuzzy coloring, f-chromatic value of intuitionistic fuzzy coloring, intersecting IFDHG, K-intersecting IFDHG, strongly intersecting IFDHG were studied. Also it has been proved that IFDHG H is strongly intersecting if and only if it is K-intersecting.

Keywords: Core aggregate of IFDHG, intuitionistic fuzzy colorings (IFC), elementary center, f -chromatic value of IFC, intersecting IFDHG, K-intersecting, strongly intersecting IFDHG.

6. References:

Authors: Cyrus BabuOng’ondo

Paper Title: Investigating Pre-Construction Planning in the Construction Industry of Kenya: Practitioners Perspective

Abstract: The subject of pre-construction planning is central to the success of project controls and performance during the implementation of construction projects. However, projects have been failing pointing to the need to relook at the planning for projects implementation. In the construction industry of Kenya, performances challenges during projects implementation is a chronic problem. Projects do not achieve their planned cost, time and quality objectives among other performance measures. This study sought to investigate pre-construction planning in the construction industry of Kenya, with emphasis on its adequacy. This cross-sectional research adopted a mixed-method design consisting of analysis of a questionnaire survey administered to active 95No. (NCA1, NCA2 and NCA3) contractors selected by way of stratified random sampling. A similar approach was also used to select 92No.Consultants with a response rate of 54.73% and 46.73% respectively. In addition, 11No.practitioners wereinterviewed in the currentstudy. Data analysis techniques employed include descriptive statistics and thematic analysis. The study established five (5No.) issues that need to be given careful attention when planning for projects implementation. The issues in order of importance include; Clarity of Scope Statement (RII=0.896), Clarity of performance benchmarks (RII=0.865), Competency of the project team (RII=0.682), Clarity of roles definition (RII=0.764) and Contractors selection criteria (RII=0.726). The study concludes by compiling views of the practitioners on what they consider good practice in improving the pre-construction planning practice. The study recommends the use of the good-practice checklist developed for better projects performance.

Keywords: Pre-construction planning, construction industry, good-Practice checklist, Kenya.

References:
Abstract: Communication between devices plays an important role in data acquisition. Proper selection of communication method or protocols is an important task. For any process, hardware and software components are used to perform many tasks like controlling the process and actuators, data conversion, data acquisition etc. A large amount of hardware or software components cannot be used for data acquisition. A proper and efficient approach is intended to be made such that they are used in least possible numbers, also keeping in mind that the different existing devices are compatible without any major modifications. This paper presents an approach to acquire data.
through I2C protocol in an efficient way. The AD7746 which is capacitance to digital converter uses I2C protocol for providing the digital data. The digitized information is acquired from the AD7746 by a FPGA which is designed using modular flow method.

**Keywords:** AD7746, FPGA, I2C protocol, Master, FSM, Serialdata communication.

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3. AD7746 data sheet by Analog Devices
4. HDL Programming VHDL and Verilog by Nazeih M Botros, Charles River Media, 2005
8. Model sim SE user manual by model technology.

**Authors:** G. Thamizhendhi, R. Parvathi

**Paper Title:** Intuitionistic Fuzzy Tree Center-Based Clustering Algorithm

**Abstract:** In this paper, the concepts of distance, eccentricity, radius, diameter and center of an intuitionistic fuzzy tree are defined. Some of the domination parameters like independent domina-tion, connected domination and total domination on intuitionistic fuzzy trees are investigated. The procedure for intuitionistic fuzzification for numerical data set is proposed. Further, in-tuitionistic fuzzy tree center-based clustering algorithm is designed. The eectiveness of the algorithm is checked with a numerical dataset and compared with two existing clustering methods.

**Keywords:** Intuitionistic fuzzy tree, distance, eccentricity, center, connected domination, connec-tivity, clustering.

**References:**
22. C. T.Zahn, Graph-theoretical methods for detecting and describing gestalt clusters, IEEE Trans-actions on Computers, 20 (1)(1971), 68-
### Improved Design of Obstacle Avoidance Robot using three Ultrasonic Sensors and ATMEGA328P Microcontroller

**Authors:** Mukesh Kumar Dey  
**Paper Title:** Improved Design of Obstacle Avoidance Robot using three Ultrasonic Sensors and ATMEGA328P Microcontroller  
**Abstract:** This paper proposes an alternative design for a cost effective and simplified version of the obstacle avoidance robot using three ultrasonic sensors. It also provides a dynamic algorithm which directs the robot to navigate smoothly in different environments, avoiding obstacles. The main objective of this paper is to improve the accuracy of the robot in detection and avoidance of obstacles at various angles. The paper talks about the design of the robot which is followed by the working principle of sensors and algorithm for the microcontroller. The paper finally makes a detailed explanation of the code for the obstacle avoidance strategy and draws a conclusion based on the designed robot.  
**Keywords:** ATMEGA328P, Binary Logic, HC-SR04, Dynamic algorithm..  

**References:**  

### Industrial Application of Differential Evolution Algorithm

**Authors:** Amit R. Kharaparde, M. M. Raghuvanshi, L. G. Malik  
**Paper Title:** Industrial Application of Differential Evolution Algorithm  
**Abstract:** Here, we presented, the use of differential evolution algorithm in industrial applications. The differential evolution algorithm is widely used to solve direct, continuous space optimizations problems. The application of DE is present in almost all fields of engineering problems. One real life problem, from the field of electronic engineering name frequency modulation for sound waves synthesis is used to show the efficiency of differential evolution algorithm. The results are further evaluated on the parameter name success rate and success performance, they shows that the DE have very fast convergence rate and having ability to solve the given problem.  
**Keywords:** Evolutionary algorithm, sound waves, multi-model problem  

**References:**  
Abstract: In the last two decades Internet has changed our lives in a great way. Almost everything is dependent on internet. Vast use of internet has created a new kind of threat to human civilization. Dependency of our day to day work in cyber world has become indispensable in present time. This revolution of internet has made our life much easy on one hand but at the other hand we need to be very much cautious. If we are not familiar of the pros and cons of the cyber world it may cost a huge loss sometimes to even life. So it is the need of time that everyone of this earth should educated well about this beautiful cyber world along with all the security aspects and it needs a well-planned strategy to achieve 100 % cyber literacy.

Keywords: Cyber Education, Cyber Security, Cyber Theft, Cyber World, Literacy.

References:
1. <http://ijcse.academic-publication.org/>
Authors: S. Vadivel, B. Baskaran
Paper Title: Comparison of Responses of the PI and the Fuzzy Logic Controlled Closed Loop DPFC Systems

Abstract: The proposed work deals with comparison of the PI and the fuzzy logic controlled closed loop DPFC systems. The voltage across the load decreases due to the addition of extra load and the load voltage are restored back to normal value by using closed loop system. The ability of closed loop system to bring the voltage and reactive power back to the set value is represented in this paper. The simulation studies for open loop and closed loop systems are performed on a standard ten bus radial test system.

Keywords: DPFC - Distributed power flow control, DVR - Dynamic Voltage Regulator, ESS - Steady State Error, FACTS - Flexible AC Transmission System, Q - Reactive Power, STATCOM - Static Compensator, Ts - Settling Time, UPFC - Unified power flow control, V - Voltage, VAR - Voltage Amperes Reactive, VP - Peak Over Shoot Voltage.

References:

Authors: Vaibhav V. Shah, Smitkumar J. Mirani, Yashvardhan V. Nanavati, Vishal Narayanan, Sheetal I. Pereira
Paper Title: Stock Market Prediction using Neural Networks

Abstract: In this paper we present our efforts to predict the stock market using Artificial Neural Networks. We study different types of Neural Networks, their salient features along with the internal working of these networks and the various configurations that they can be run with. We go to comment on the advantages and disadvantages of these networks. Finally we select the one network with specific configurations and use it to predict the stock prices of a few selected companies from the National Stock Index. We achieve best case accuracy of 98% on the dataset.

Keywords: Artificial Neural Networks, Neurons, Back propagation algorithm, Prediction methods, Stock markets.

References:
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Authors: Rajesh B. Mapari, Govind Kharat
Paper Title: Performance Analysis of Different Classifiers for American Sign Language Recognition

Abstract: American Sign Language alpha-numeric character recognition without using any embedded sensor, color glove or without the constraints of an environment is a really difficult task. This paper describes a novel method of static sign recognition using a leap Motion sensor by obtaining feature set based on hand position, distance and angle between different points of hand. A feature set is later trained and tested using different classifiers like MLP (Multilayer Perceptron), GFFNN (Generalized Feed forward Neural Network), SVM (Support Vector Machine). We have collected dataset from 146 people including students of age 20-22 years and few elders.
age between 28-38 who have performed 32 signs resulting in total dataset of 4672 signs. Out of this 90% dataset is used for training and 10% dataset is used for testing/Cross validation. we have got maximum classification accuracy as 90% on CV/testing dataset using MLP Neural Network.

Keywords: ASL, MLP, GFFNN, SVM.

References: