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Paper Title: New Chromogenic Spray Reeagent for Detection of Acephate from Biological Material

Abstract: High performance thin layer chromatography has found wide recognition in many fields and in sensitivity of detection offers particular advantage to the toxicologist, which has increased, 10 to 100 times as compared to the chemical method. It has become an important analytical tool since it can separate complex mixture in a relatively short time. In existing study, an effort has been taken to determine organ phosphorus insecticide Acephate by using high performance thin layer chromatography. A new specific Sensitive chromogenic reagent 0.1% solution of ferric chloride in 80% ethanol and 1 % Sulfosalicylic acid in 80% ethanol has been developed for detection of Acephate an organophosphorus insecticide with solvent system petroleum ether: methanol (95: 5).

Keywords: Chromatography, chromogenic, Acephate, ferric chloride, ethanol, Sulfosalicylic, organophosphorus.

1-2

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Paper Title: A Novel Approach for Knowledge Extraction Using Ontology Construction Method

Abstract: In recent research, Ontology construction plays a major role for transforming raw texts into useful knowledge. It reduces the difficulties in understanding the information and semantic interpretation. The proposed method in this paper supports efficient construction of ontology and applies efficient method to train the data before taking into testing process. The proposed approach uses the phrase-pairs to extract useful knowledge and uses data mining techniques and neural network approach to express the knowledge well and also it improves the search speed and accuracy of information retrieval. This method avoids noise generation by analyzing the relevancy of tags to the retrieval process and shows somewhat better recall value compared to other methods. In this approach an optimized reasoners is applied to reduce complexity in the key inference problem. The formulated ontology can help clearly expressing its meaning for various concepts and relations. Due to the increasing size of ontology repository, the matching process may take more time. To avoid this, this method forms a hierarchical structure with semantic interpretation of data. The system is designed to extract useful knowledge from data sources that are constructed by collecting data from diverse sources.

Keywords: Back propagation, domain ontology, knowledge extraction, information retrieval, agricultural environment.

3-8

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3.	**Authors:**	**J. Thirumaran, S. Dhinakaran**	
	Paper Title:	**Nano-Robotics in Medical Applications-Ventilons**	
	Abstract: Nano Robotics is a field under continuous development. It involves the construction of robots of the size of 10^-9m. In the last decade many nano robots have made their way out of the drawing boards to enter into the human body and do things beyond human imagination. Symptoms like itching and fever have certain biochemical causes which can be eliminated by injecting nano robots. In this technological era of development our paper acts as a beacon for scientists and research scholars. Our paper mainly concentrates on creating nano robots that mimic the action of RBC's. These nano robots are called as Ventilons. Our paper also concentrates on future trends of nano robotics like implementing nano robots to detect human physiology. The second part of our paper deals with introducing nanosensors and nano-robots in detecting Human blood sugar level. These nano-robots are embedded with mobile phones and the status of the patient can be read from remote places. These nano particles that reduce the size of microelectronic components will cover the entire world inside a single chip. **Keywords:** Nano-robots, nano sensors, ventilons, nano technology, nano-medicine. **References:** 1. Wang, J. (2009). "Can Man-Made Nanomachines Compete with Nature Biomotors?". ACS Nano 3 (1): 4–9. 2. Fisher, B. (2008). "Biological Research in the Evolution of Cancer Surgery: A Personal Perspective". Cancer Research 68 (24): 10007–10020. 3. Cavalcanti, A., Shirinzadeh, B., Zhang, M. & Kretly, L.C. (2008). "Nanorobot Hardware Architecture for Medical Defense". Sensors 8 (5): 2932–2958. 4. Hill, C., Amodeo, A ., Joseph, J.V. & Patel, H.R.H. (2008). "Nano- and microrobotics: how far is the reality?". Expert Review of Anticancer Therapy 8 (12): 1891–1897. 5. Cale, T.S., Lu, J.-Q. & Gutmann, R.J. (2008). "Three-dimensional integration in microelectronics: Motivation, processing, and thermomechanical modeling". Chemical Engineering Communications 195 (8): 847–888. 6. Couvreur, P. & Vauthier, C. (2006). "Nanotechnology: Intelligent Design to Treat Complex Disease". Pharmaceutical Research 23 (7): 1417–1450. 7. Elder, J.B., Hoh, D.J., Oh, B.C., Heller, A.C., Liu, C.Y. & Apuzzo, M.L. (2008). "The future of cerebral surgery: a kaleidoscope of opportunities". Neurosurgery 62 (6): 1555–1579. 8. Martel, S., Mohammadi, M., Felfoul, O., Lu, Z. & Pouponneau P. (2009). "Flagellated Magnetotactic Bacteria as Controlled MRItrackable Propulsion and Steering Systems for Medical Nanorobots Operating in the Human Microvasculature". International Journal of Robotics Research 28 (4): 571–582. 9. Cavalcanti, A. (2009). "Nanorobot Invention and Linux: The Open Technology Factor - An Open Letter to UNO General Secretary". CANNXS Project 1 10. Vaughn JR. (2006). "Over the Horizon: Potential Impact of Emerging Trends in Information and Communication Technology on Disability Policy and Practice". National Council on Disability, Washington DC.: 1–55.	**9-11**
4.	**Authors:**	**V. S. Malunjkar, M. G. Shinde, S. S. Ghotekar, A. A. Atre**	
	Paper Title:	**Estimation of Surface Runoff using SWAT Model**	
	Abstract: Runoff is a very important phenomenon of hydrological cycle and it is relevant for the watershed management programme for conservation and development or natural resources and its management. However, In India the availability of accurate information on runoff is scarce. Soil and Water Assessment Tool (SWAT) is a physically based distributed parameter model which has been developed to predict runoff, erosion, sediment and nutrient transport from agricultural watersheds under different management practices. For the present study, a small agricultural watershed has been selected for runoff assessment. Geoinformatic techniques such as ERDAS software and Shuttle Radar Topographic Mission (SRTM) data are used for execution of the model. Calibration of the model is done with the help of observed data and then it is validated on selected study area. For calibration and validation, daily observed runoff data of 1997 and 1998 were used. It is found from the results that, Nash and Sutcliffe efficiency was 0.62 and 0.74 respectively and coefficient of determination was 0.98 and 0.95 respectively for calibration and validation period. **Keywords:** Hydrological modeling, Runoff, Nash and Sutcliffe efficiency and SWAT. **References:** 1. C. W. Dawson and R. L. Wilby, "Hydrological modeling using artificial neural networks. Prog. Phys. Geog. 2001, 25, pp: 80-108. 2. T. A. Fontaine, T. S. Cruickshank, J. G. Arnold and R. H. Hotchkiss, "Development or a snowfall-snowmelt routine for mountain- terrain for the soil water assessment tool (SWAT)." J. Hydrol. 2002, 262, pp: 209-223. 3. D. B. Beasley, L. F. Huggins and E. J. Monke, "ANSWERS: a model for watershed planning." Trans. ASAE, 1980. pp: 938– 944. 4. M. A. Nearing, G. R. Foster, L. J. Lane and S. C. Finkner, "A process-based soil erosion model for USDA-water erosion prediction project technology." 1989. Trans. ASAE, 32 (5), pp: 1587– 1593. 5. R. K. Misra and C. W. Rose, "Manual for use of program GUEST." Division of Australian Environmental Studies Report. Griffith Univ., Brisbane, Australia, Queensland. 1990. 6. R. P. C. Morgan, J. N. Quinton, R. E. Smith, G. Govers, J. W. A. Poesen, K. Auerswald, G. Chisci, D. Torri and M. E. Styczen, "The European soil erosion model (EUROSEM): a dynamic approach for predicting sediment transport from fields and small catchments." Earth Surface Processes and Landforms, 1998. 23, pp: 527–544. 7. A. P. J. De Roo and R. J. E. Offermans, "LISEM: a physically-based hydrological and soil erosion model for basin-scale water and sediment management." Proc. Boulder Symp., 1995. IAHS Publ. no. 231. pp: 399-407. 8. G. J. Arnold, R. Srinivasan, R. S. Muttiah and J. R. Williams, "Large area hydrologic modeling and assessment Part I: Model development." J. Am. Water Resour. Assoc. 34. 1998. (1), pp; 73–89. 9. J. E. Nash and J. V. Sutcliffe, "River flow forecasting through conceptual models, Part-1: A discussion of principles". J. Hydrol. 1970. 10 (3), pp: 282–290. 10. S. A. Glantz and B. K. Slinker, "Primer of Applied Regression and Analysis of Variance." McGraw-Hill, Vol.07, 1990. pp: 407-412.	**12-15**

5.	**Authors:**	**V. S. Malunjkar, M. G. Shinde, A. A. Atre, V. N. Barai**
	Paper Title:	**Assessment of Runoff and Sediment Yield from a Small Agricultural Watershed**

Abstract: Runoff and soil erosion are very important processes need to be consider during watershed planning and management and are often non-linear and scale dependent, which complicate runoff and erosion modeling at the catchment scale. One of the reasons for scale dependency is the influence of sinks, i.e. areas of infiltration and sedimentation, which lower hydrological connectivity and decrease the area-specific runoff and sediment yield. The simulation models are useful tools for prediction of runoff and soil erosion at plot scale to catchment scale. Various predictive models have been developed by various researchers for predicting runoff and sediment yield from watersheds. The objective of this study was to model runoff and sediment yield for a small watershed using a coupled approach based on Natural Resources Conservation Service Curve Number (NRCS-CN) method and the Universal Soil Loss Equation (USLE). The results showed that the coupled approach of NRCS-CN and USLE model accurately simulate runoff and sediment yield from the study area.

Keywords: Runoff, erosion, simulation, universal soil loss equation.

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16-20

6.	**Authors:**	**Bankar Kartik, Joshi Bhargav, Mungal Mahajan, Subhash Rathod**
	Paper Title:	**NFC Based Android API Healthcare System**

Abstract: With the recent increase in usage of mobile devices especially in developing countries, they can be used for an efficient healthcare management. In this work, we have proposed a novel architecture for improving health care system with the help of Android based mobile devices with NFC and Bluetooth interfaces, smartcard technology on tamper resistant secure element (SE) for storing credentials and secure data, and a Health Secure service on a hybrid cloud for security and health record management. The main contribution of this paper is proposal of applications for: i) Secure Medical Tags for reducing medical errors and ii) Secure health card for storing Electronic Health Record (EHR) based on Secure NFC tags, mobile device using NFC P2P Mode. Since NFC NDEF format is prone to security attacks [2], we have utilized low level APIs on Android based mobile devices, to securely access NFC tags such as MIFARE. Simple touch of NFC enabled mobile devices can benefit both the patient as well as the medical doctors by providing a fast and secure health flow. It can also provide portability of devices and usability for health management in emergency situation, overpopulated hospitals and remote locations.

Keywords: Android based mobile devices, NFC, Bluetooth interfaces, secure element (SE), Electronic Health Record (EHR), NFC P2P Mode, MIFARE.

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7.

Authors:	**Nibedita Priyadarshini Mohapatra, Adyasa Mohanty, Prajna Parimita Pradhan, Sasmita Kumari Sahu**
Paper Title:	**Enhancement of Energy Efficient Protocol for Wireless Sensor Network with Improved Communication**

Abstract: Wireless sensor network (wsn) is now the center of attraction for most of the research peoples due to its wide range of applications in almost every field. Where human intervention is impossible, wsn was reachable. It has lots of challenges and issues; we wish to solve the energy budget and also try to provide an improved communication in wireless sensor network. Here we proposed an energy efficient model for wsn which was an enhanced energy efficient routing and clustering approach. This model improves the lifetime of the network with enhanced energy efficiency and improved communication. Here we compare our model with existing protocol and by the simulation results we can say our model performs better than the existing model. Here we also propose a Energy saving data gathering method for wsn with less energy consumption and faster data transmission. The simulation results reflect the idea very well.

Keywords: Sensor network, clustering, routing, energy efficient.

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10. Routing Protocols in Wireless Sensor Networks –A Survey Shio Kumar Singh 1, M P Singh 2, and D K Singh 3. Routing Techniques in Wireless Sensor Networks: A Survey¤,Jamal N. Al-Karaki Ahmed E.Kamal Dept. of Electrical and Computer Engineering Iowa State University, Ames, Iowa50011.

8.

Authors:	**P. Gowtham Kumar, P. Chandrasekhar, K. V. R. S. Santhosh**
Paper Title:	**Study on Dual Band Double Layered Substrate Microstrip Fork Antenna**

Abstract: The design of dual band double layered substrate fork shaped microstrip antenna has been proposed. The proposed antenna operates in Ku Band and can be used in satellite communications particularly for editing and broadcasting satellite television. The dimensions of this antenna are 40 x 40 x (h+h1) mm, where h=0.8mm is the thickness of substrate1 and h1=2mm is the thickness of substrate2 and h+h1 is the total thickness of the substrate. FR4 (lossy) material is used as substrate1 and RogersRT6006 (lossy) material is used as substrate2. Copper (annealed) metal is used as both ground plane and the patch. The proposed antenna operates at two frequencies and the frequencies are 14.33 and 13.823GHz. The return losses are -46.319426dB and -40.421846dB at frequencies 14.33 and 13.823GHz. The directivities of the proposed antenna are 8.001 and 7.962dBi at frequencies 14.33 and 13.823GHz.

Keywords: Antenna, fork antenna, Dual Band, Double Substrate, Return Loss, VSWR, Directivity.

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