

DOMANDE BUSTA 11

- Descrivere il concetto e le problematiche di sicurezza di un sistema IPS (Intrusion Prevention System) contro gli attacchi informatici verso una rete aziendale
- Descrivere le principali "porte" di una rete TCP/ IP
- Il Codice dell'Amministrazione Digitale: Finalità

Adaptive Message Embedding in Raw Images



Tamer Shanableh

Abstract In this paper, we propose an adaptive approach to message embedding in raw images. The cover image is divided into blocks where the top left pixels are dedicated as control pixels used to identify blocks carrying message information. Message bits are embedded while restricting the number of pixel changes in a cover segment to one change only. This is achieved through a concept of overloading the embedding indices; therefore, a maximum of one pixel value is changed per block for message embedding. The proposed solution is assessed in terms of percentage of changed pixels, PSNR, SSIM, histogram changes, and blind steganalysis. Comparison with existing work reveals that the proposed solution reduces both the image distortions and pixel change rates. It is also shown that the proposed solution is less detectable when tested with blind steganalysis in comparison to existing solutions.

Keywords Data embedding · Image processing · Steganography

1 Introduction

Multimedia data embedding has a number of applications including copyright protection, quality assessment and error concealment of transmitted multimedia content, medical applications like hiding patient records in medical images and convert conversations.

In general, the aim of data embedding techniques is to hide messages while minimizing detectability of the embedding and minimizing distortion caused to the cover medium like images, videos, and audio files. If the cover medium is compressed, then data embedding techniques has to minimize the increase in file size as well.

It was reported in [1] that data can be embedded successfully in motion vectors of compressed video. This was further extended by [2] to include both motion vectors of multilayer or scalable video coding and transcoding with the aim of increasing the overall data embedding rate while minimizing distortion.

T. Shanableh (✉)
American University of Sharjah, Sharjah, UAE
e-mail: tshanableh@aus.edu

Smart Cabin: A Semantic-Based Framework for Indoor Comfort Customization Inside a Cruise Cabin



Atieh Mahroo , Daniele Spoladore , Massimiliano Nolich, Raol Buqi, Sara Carciotti and Marco Sacco

Abstract This paper introduces Smart Cabin, a semantic-based framework for indoor comfort metrics customization inside a cruise cabin. Smart Cabin merges Ambient Intelligence, Ambient Assisted Living and Context Awareness perspectives to provide customized comfort experience to the cruise's passengers. Considering that passengers may be afflicted by some impairments, Smart Cabin aims at mitigating discomfort situations by providing tailored comfort settings. The framework leverages ontological representations of passengers' health conditions, activities, cabin's environment, and available devices to provide passengers with indoor temperature, humidity rate, CO₂ concentration, and luminance suitable for their health conditions and to the activities they want to perform inside the cruise cabin. Passengers' interactions with Smart Cabin are performed with a simple smartphone application, while the ontologies composing the knowledge base are reasoned and hosted on a semantic repository. Two use cases depict the framework's functioning in two typical scenarios: saving energy when the passenger leaves the cabin while reestablishing customized comfort when she/he returns, and adapting indoor comfort metrics when two or more passengers decide to perform different activities inside the same cabin.

A. Mahroo (✉) · D. Spoladore · M. Sacco

Institute of Intelligent Industrial Technologies and Systems for Advanced Manufacturing (STIIMA), National Research Council of Italy (CNR), 23900 Lecco, Italy
e-mail: atieh.mahroo@stiima.cnr.it

D. Spoladore

e-mail: danielle.spoladore@stiima.cnr.it

M. Sacco

e-mail: marco.sacco@stiima.cnr.it

M. Nolich · R. Buqi · S. Carciotti

DIA-University of Trieste, 34127 Trieste, Italy

e-mail: mnolich@units.it

R. Buqi

e-mail: rbuqi@units.it

S. Carciotti

e-mail: scarciotti@units.it

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DOMANDE BUSTA 4

- Descrizione dei sistemi CMS (Content Management System); descriverne uno a scelta (Drupal, Wordpress, Joomla ecc.)
- Social Engineering: descrizione e campi di applicazione
- Il Senato Accademico

/ //

DOMANDE BUSTA 3

- Descrivere le varie tipologie di backup
- Descrivere cos'è un brute force attack e le principali azioni di mitigazione per un'infrastruttura informatica o parti di essa
- Il Consiglio di Amministrazione

1 1 ←

2

Potential Use of Bitcoin in B2C E-commerce



Ralf-Christian Härting and Christopher Reichstein

Abstract Bitcoin is a new digital currency with a very high visibility in media and research. Therefore, different aspects of potentials of Bitcoin are explored. In a prior investigation, several manifest indicators like transaction velocity have been identified as important influencing factors for the perceived use of digital currency. The focus of this paper is an empirical study, which examines factors of the potential use of Bitcoin in a B2C E-Commerce environment. More than 100 online merchants were interviewed in 2016. Based on a structural equation model (SEM), the results of the analysis show that the low transaction costs and acceptance are the main factors that influence the potential benefits of Bitcoin in B2C E-Commerce. The study also gives ideas for the relevance of further indicators.

Keywords Bitcoin · Digital currency · E-Commerce · Empirical research

1 Introduction

The digital currency Bitcoin has existed since 2009 [1]. Based on new approaches to digital transformation, digital or crypto currencies have become more widespread and valuable [2]. Numerous alternative currencies such as Ethereum, Iota, Ripple, or Stellar have also emerged [3]. Accordingly, a few empirical studies or research papers are available on the subject of Bitcoins. Most studies on this have examined the general knowledge and use of the digital currency of private users.

Among the companies that may want to accept or have already accepted the digital currency, there are very few empirical studies. Therefore, companies engaged in E-Commerce and not private users are examined in this paper. The impact of different criteria on the potential benefits of Bitcoin in B2C E-Commerce should be considered

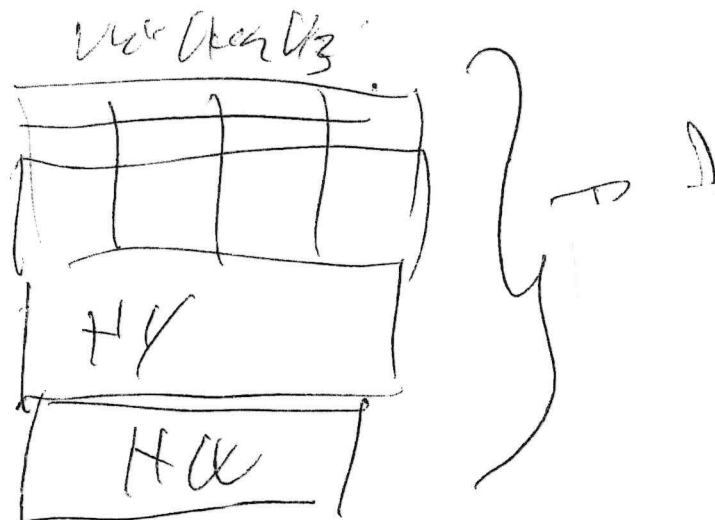
R.-C. Härting (✉) · C. Reichstein
Business Science, Aalen University of Applied Sciences, Aalen, Germany
e-mail: ralf.haerting@hs-aalen.de

C. Reichstein
e-mail: christopher.reichstein@kmu-aalen.de

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DOMANDE BUSTA 10

- Descrivere il concetto di Join, Primary key e foreign key in un database relazionale
- Descrivere il funzionamento di una macchina virtuale e le sue caratteristiche
- Il Legale Rappresentante dell'Università



Unsupervised Learning of Image Data Using Generative Adversarial Network



Rayner Alfred and Chew Ye Lun

Abstract Over the past few years, with the introduction of deep learning techniques such as convolution neural network (CNN), supervised learning with CNN had achieved a huge success in the computer vision area such as classifying digital images. However, supervised learning has a major drawback, in which it requires a large dataset for them to perform more effectively. As the data used in training grew bigger, the cost of labeling data for training becomes more expensive and impractical. In order to resolve this issue, unsupervised learning is encouraged to be used as it can draw inferences from datasets consisting of unlabeled input data. Generative adversarial network (GAN) is one of the unsupervised learning technique that has the ability to create natural-looking images, converting text description into images, recover resolution of images and last but not least, its power of representation learning from unlabeled data. Thus, this study attempts to evaluate the effectiveness of GAN algorithm in performing the supervised task and unsupervised task such as classification and clustering. Based on the results obtained, the GAN algorithm can learn the internal representation of data without labels and can act as good features extractor. Future works include applying GAN framework in other domains such as video, natural language processing and text to image synthesis.

Keywords Unsupervised learning · Supervised learning · Generative adversarial network · Feature extraction

R. Alfred (✉) · C. Y. Lun

Knowledge Technology Research Unit, Faculty of Computing and Informatics, Universiti Malaysia Sabah, Jalan UMS, 88400 Kota Kinabalu, Sabah, Malaysia
e-mail: ralfred@ums.edu.my

C. Y. Lun

e-mail: c_hello94@hotmail.com

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DOMANDE BUSTA 7

- Tecnologia Hot Swap: descrizione ed esempi di applicazione
- Descrivere cos'è un attacco Dos/DDos e descriverne delle metodologie di mitigazione per una infrastruttura informatica
- La Firma Digitale

11.11.11 A. M

On Hierarchical Classification Implicative and Cohesive M_{GK} -Based: Application on Analysis of the Computing Curricula and Students Abilities According the Anglo-Saxon Model



Hery Frédéric Rakotomalala and André Totohasina

Abstract Extracting association rules from a huge binary data according to a quality measure is an important pretreatment step in data analysis. Also, among unsupervised techniques, our approach for a hierarchical classification implicative and cohesive is based on the new measure of cohesion according to the interestigness measure M_{GK} . In this paper, we present, for the first time, a validation of this approach in the field of education, mainly in the computing curricula and the performance capabilities of students pursuing this curriculum in the Anglo-Saxon model.

Keywords Binary data · Quality measure M_{GK} · Implicative cohesion · Statistical implicative analysis · Oriented classification

1 Introduction and Motivations

Scientists all over the world are putting their energy into improving the ever-evolving computing curricula, thanks to technological performance and large volumes of data, as well as the constant demands of perfection of society. Considering the remarkable properties of the interestigness measure M_{GK} already studied in [1], we are moving toward Régis Gras's theory of statistical implicative analysis (SIA) to discover quasi-implicative, non-symmetric rules of type "if we have X, we have generally Y" in a binary context [2]; but this time, the extraction of association rule (AR) valid is done according to the interestigness measure M_{GK} [3]. The extracted AR-valid will then be classified in relation to the hierarchical classification implicative and cohesive (HCIC) method according to the new M_{GK} -based cohesion index [4, 5]

H. F. Rakotomalala (✉) · A. Totohasina
Department of Mathematics and Informatics High School Training for Technological Schools
(ENSET), University of Antsiranana, Postal Box 0 Antsiranana, Madagascar
e-mail: fredericrakotomalala@yahoo.fr

A. Totohasina
e-mail: andre.totohasina@gmail.com

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DOMANDE BUSTA 2

- Descrivere il concetto di disaster recovery e le sue applicazioni in una infrastruttura aziendale
- Descrivere cos'è un ransomware e il suo funzionamento
- Il Direttore Generale: ruolo e funzioni

Proposed System for Effective Adoption of E-government to Obtain Construction Permit in Egypt



Heba Fawzy and Dalia A. Magdi

Abstract This study aims to develop a new automated system for obtaining construction permit in Egypt instead of the old processes which depend on paper work and consumes more than 200 days through 19 procedures affecting the ranking of Egypt in Doing Business Report in dealing with construction permit pillar. Using this new system will have a positive impact on enhancing the rank of Egypt in this international report by reducing time and the number of procedures needed to obtain the permit in addition to enhancing the process efficiency and linking all the stakeholders involved in it with minimum human interaction which eliminate corruption level as well. The system also helps in obtaining regular reports and feedback from the employees and the citizens. This study analyzes old system of obtaining construction permit in Egypt including time, number of procedures, and their impact on the Egyptian ranking of Doing Business Report. It also describes the proposed system design and the impact of using the system on enhancing Egypt rank in dealing with construction permit index in Doing Business Report.

Keywords E-government · Information system · Doing Business Report · Construction permit

1 Introduction

The emerging purpose of information technology and communication networks is to expend and support the development of the economic, social, cultural, and political sectors that took the attention of most of developing countries [1]. The number of

H. Fawzy

Ministry of Housing, Utilities and Urban Communities, Cairo, Egypt
e-mail: enheba2016@yahoo.com

D. A. Magdi (✉)

Information System Department, French University in Egypt, Cairo, Egypt
e-mail: daliomagdi@gmail.com

Computer and Information System Department, Sadat Academy for Management Sciences, Cairo, Egypt

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DOMANDE BUSTA 15

- Descrivere il funzionamento dei protocolli HTTP /HTTPS e dei suoi campi di applicazione
- Linguaggi di programmazione e sicurezza informatica
- Rettore e Direttore Generale: differenze e competenze

1. 0

Fuzzy Models and System Technical Condition Estimation Criteria



Gennady Korshunov, Vladimir Smirnov, Elena Frolova
and Stanislav Nazarevich

Abstract The problem of the limited hardware capability of the parametric tolerance control process of the state of technical systems is considered. A more complete assessment of the technical condition of a workable product is necessary to support decision making and reduce risks. An approach to estimating the parameters of systems based on the theory of fuzzy sets to determine the state characterized by considerable uncertainty and incompleteness of information for its modeling by traditional methods is proposed. This approach is applicable to the organization of tolerance control at different stages of the life cycle. This approach uses an additional fuzzy classification of parameter values to increase the reliability of control results, taking into account uncertainty factors. It is proposed to use the working capacity criterion, the criterion for the steadiness of the tendency of the dynamics, the criterion of the rate of change of the parameter, and the complex criterion for working capacity level in addition to the criterion of belonging to tolerance zones. Four fuzzy classifiers have been developed, which allow to take into account the inaccuracy and approximation of the initial information, operate with linguistic criteria and include qualitative variables in the analysis. The procedure for estimating the value of the parameter according to the complex criterion for working capacity level is considered.

Keywords Working capacity · Parametric control · Tolerance field · Estimation criterion · Fuzzy classifiers · Linguistic variable · Membership function

G. Korshunov · E. Frolova · S. Nazarevich
State Autonomous Educational Institution of Higher Education, "Saint-Petersburg State University of Aerospace Instrumentation" (SUAI), ul. Bolshaya Morskaya, 67, lit. A, St. Petersburg 190000, Russian Federation
e-mail: kgi@pantes.ru

G. Korshunov
Ciberphic Systems and Control High School, Peter the Great St. Petersburg Polytechnic University (SPB STU), 29, Polytechnicheskaya St., St. Petersburg 195251, Russian Federation

V. Smirnov (✉)
Closed Joint Stock Company, Scientific-Production Center "Akvmarin", Tallinskaya St., 7, St. Petersburg 195196, Russian Federation
e-mail: vlad.sm2010@yandex.ru

DOMANDE BUSTA 1

- Cloud storage: caratteristiche e problematiche
- Descrivere un linguaggio di programmazione (es. Java, Php, python, Javascript)
- Il Rettore: ruolo e funzioni



DOMANDE BUSTA 16

- Problematiche di autenticazione e autorizzazione in un sistema informatico
- SEO (Search Engine Optimization): descriverne i principi di funzionamento e gli utilizzi
- Codice in materia di Protezione dei Dati Personali

Software Tools and Techniques for the Expert Systems Building



Arslan I. Enikeev, Rustam A. Burnashev and Galim Z. Vakhitov

Abstract The report presents the results of research on the creation of CASE tools that provide the ability to effectively build expert systems. As a part of the creation of CASE tools, we focus on building an integrated development environment that includes a combination of SWI-Prolog, Java, Python programming languages, PostgreSQL database management system (DBMS) as well as telemetry tools. On the basis of the created integrated development environment, an experimental version of the expert system was built. This expert system is mainly focused on automating the analysis processes and forming requirements for the software applications and hardware being developed using the built-in telemetry tools and taking into account the specifics of the corresponding subject area. The expert system is performed using the logical rules concerning the characteristics of workstations and corresponding software systems. As a result, the expert system forms requirements and recommendations to the properties of the software and hardware products being developed.

Keywords Expert system · Database management systems · CASE tools · Continuous integration · Telemetry

1 Introduction

Currently, when developing software applications, the process of communication between the customer, the developer, and user is often limited only by the functionality of the application being developed. The practice of a software development shows that this is not enough because, first of all, it is necessary to clarify why the program is needed and who will use it. The developer of a software product, in order to make quick money, is often taken to design an application without even getting an answer to a question from a customer—why? As a result, sometime after the exploitation of the embedded application, the developer is informed that the application will be used for example not only by the personnel department but also by

A. I. Enikeev (✉) · R. A. Burnashev · G. Z. Vakhitov
Kazan Federal University, Kazan, Tatarstan, Russia
e-mail: r.burnashev@inbox.ru

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DOMANDE BUSTA 14

- Tecnologia Peer to Peer: concetti ed esempi di applicazione (file sharing, criptovalute ecc.)
- Descrivere il DNS (Domain Name System) e suoi utilizzi in una rete informatica
- Il DPO (Data Protection Officer)

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Methodology for Selecting Cameras and Its Positions for Surround Camera System in Large Vehicles



S. Makarov Aleksei and V. Bolsunovskaya Marina

Abstract This article describes the methodology for selecting cameras and its location for a surround camera system in large vehicles. The methodology includes selecting a camera using a database that stores information about vehicle model, its dimensions, angle of camera view, angle of camera tilt, area of blind zones, and image sharpness. In addition, examples of cameras location and images from them are shown.

Keywords Surround camera system · Trucks · Wide-angle cameras

1 Introduction

The surround camera system in the cars is an auxiliary to driver and displays inaccessible to the driver through the rear-view mirrors and windows areas around the vehicle on the monitor located in passenger compartment. We are developing a surround camera system, which is a hardware–software system consisting of several (4–6) cameras, a computer system and a monitor, which shows information from cameras as a bird’s-eye view. In large-sized vehicles, dead zones are much larger. Therefore, when designing such systems, there is a question of correct location of cameras on vehicle body. There are three parameters required to select correct camera position:

1. Position on vehicle body.
2. Height of location.
3. Angle of camera tilt to surface of earth.

S. Makarov Aleksei (✉) · V. Bolsunovskaya Marina
Peter the Great St. Petersburg Polytechnic University (SPbPU), Polytechnicheskaya 29,
195251 St. Petersburg, Russia
e-mail: lyohamakarov@yandex.ru

V. Bolsunovskaya Marina
e-mail: bolsun_hht@mail.ru

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DOMANDE BUSTA 8

- Descrivere il protocollo TCP / UDP
- Descrivere il funzionamento di un firewall hardware; proporre esempi
- La Posta Elettronica Certificata

BUTTA 8

A Modeling Environment for Dynamic and Adaptive Network Models Implemented in MATLAB



S. Sahand Mohammadi Ziabari and Jan Treur

Abstract In this paper, a software environment to support Network-Oriented Modeling is presented. The environment has been implemented in MATLAB. This code covers the principles of temporal-causal network models. The software environment has built-in options for network adaptation principles such as the Hebbian learning principle from neuroscience and the adaptation principle for bonding based on homophily from social science. The implementation is illustrated for an adaptive temporal-causal network model under acute stress for decision-making.

Keywords Network-oriented modeling · Temporal-causal network · Adaptive · Software environment · Hebbian learning · Bonding by homophily · MATLAB

1 Introduction

In this paper, a dedicated software environment to support Network-Oriented Modeling is presented. The Network-Oriented Modeling approach addressed uses temporal-causal network models. This means that any scientific field in which causal relations are used to explain hypotheses, findings, and theories can be used in Network-Oriented Modeling [1]. Such domains vary from mental processes in individuals to social processes. For example, the interactions among individuals can be modeled as a network taking into account a network adaption principle like bonding based on homophily principle [2, 3]. Individual mental processes can be modeled as an interaction between mental states taking into account a network adaption principle based on Hebbian learning [4]. The latter represents the notion of plasticity described in Neuroscience which means that the communications within the brain are often adaptive and change over time.

S. S. Mohammadi Ziabari (✉) · J. Treur
Behavioural Informatics Group, Vrije Universiteit Amsterdam, Amsterdam, Netherlands
e-mail: sahandmohammadiziabari@gmail.com

J. Treur
e-mail: j.treur@vu.nl

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DOMANDE BUSTA 9

- Descrivere il funzionamento di un firewall software; proporre esempi
- Descrivere le principali caratteristiche di un Web Server e il suo funzionamento
- Lo Statuto

4

5

Face Authentication Using Image Signature Generated from Hyperspectral Inner Images



Guy Leshem and Menachem Domb

Abstract Face recognition technologies are commonly used in access control systems. It is done by extracting selected features from the face image, taken by a 2D camera. This technique lacks the case of a picture placed in front of the camera. The system will mistakenly recognize it as a real live person and so, allow the access of the picture holder, which may be an unauthorized person. A new generation of security systems uses a three-dimensional face recognition. Although it is better than 2D, it lacks a similar case, where a 3D image is generated from many 2D images. The system will assume it is a picture taken from a live person, and mistakenly, allow the access. We propose an enhancement to the existing authentication process given 2D face image. It is based on inner images extracted from a hyperspectral camera. These images represent inner layers of the person tissue structure, which in general are different from person to person and so, may be used to differentiate between two persons. We use these generated features to generate an authentication signature. The authentication signature is a composition of processed inner layers features. To prove that this signature is universally unique and can substitute the current use of 2D image recognition system, there is a need to conduct a comprehensive testing and apply other technologies to prove it. We are not at this stage. Therefore, at this stage, we propose adding to each image a unique signature generated from the corresponding hyperspectral inner layers. When a person is trying to access, the access control system, using a hyperspectral camera, captures its standard image features, and in addition, calculates the inner images to generate a relatively unique signature, and compares both elements to the identification table. Experiments show that this combination generates a relatively unique identification key. From the beginning of our initial experiments, it kept its attentiveness and uniqueness for all we tried to challenge it. Further experiments prove the significant contribution of inner features for strengthening the person authentication.

G. Leshem · M. Domb (✉)
Department of Computer Science, Ashqelon Academic College, Ashkelon, Israel
e-mail: dombmnc@edu.aac.ac.il

G. Leshem
e-mail: gialsrm@edu.aac.ac.il

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DOMANDE BUSTA 6

- Descrivere gli impieghi del backup in una rete aziendale
- Piattaforma LAMP (Linux, Apache, MySQL, PHP/Perl/Python):
descrizione ed utilizzi
- Il Dipartimento

7



Regional Agricultural Land Classification Based on Random Forest (RF), Decision Tree, and SVMs Techniques



Nassr Azeez, Wafa Yahya, Inas Al-Taie, Arwa Basbrain and Adrian Clark

Abstract Land cover observation based on remote sensing data demands robust classification techniques which give the precise complex land cover mapping. Scientists and researchers made great efforts in improving classification accuracy considerably. The aim of this paper is to show outcomes gained from the RF classifier and decision tree and to compare their effectiveness with the SVMs technique. The mentioned techniques are applied over the imagery we have captured with six different classes of ROI (Region Of Interest) images including unknown range. Results indicated that the performance of the random forest classifier outperforms the decision tree and SVMs techniques performance in terms of the number of mis-classifications instances and the classification accuracy with an overall accuracy of 86%, while the decision tree accuracy is 67%, and the SVMs accuracy is 56%, respectively.

Keywords Classification · RF · SVMs · Remote sensing

N. Azeez (✉) · I. Al-Taie · A. Basbrain · A. Clark
School of Computer Science and Electronic Engineering,
University of Essex, Colchester, UK
e-mail: naazee@essex.ac.uk

I. Al-Taie
e-mail: iyyalt@essex.ac.uk

A. Basbrain
e-mail: amabas@essex.ac.uk

A. Clark
e-mail: alien@essex.ac.uk

N. Azeez · I. Al-Taie
Faculty of Science, Computer Department, University of Baghdad, Baghdad, Iraq

A. Basbrain
Faculty of Computing and Information Technology,
University of King Abdul-Aziz, Jeddah, Saudi Arabia

W. Yahya
Faculty of Education, Mathematics Department,
University of Al-Hamdaniya, Ninawa, Iraq
e-mail: rwafa1993@gmail.com

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DOMANDE BUSTA 12

- Descrivere il concetto e le problematiche di sicurezza di un sistema IDS (Intrusion Detection System) contro gli attacchi informatici verso una rete aziendale
- Sistemi di accesso remoto: descrivere i principi di funzionamento e gli utilizzi con eventuali esempi
- Il Garante Privacy

DOMANDA NON RISPONDI

BRAMO NON LORTISSIATO

BUSTA 12

Megapolis Tourism Development Strategic Planning with Cognitive Modelling Support



Alexander Raikov

Abstract The strategic planning of the megapolis tourism development is the process that has to take into account hundreds of factors. Some of the factors cannot be calculated or do not have statistic history. Some of the factors are latent or incorrect. The long-term strategic planning usually includes a short-term action planning. In this case, experts are creating cognitive models that take into consideration non-formalized cognitive semantics. The modelling shows that small change in resource allocation or some mistakes in decision-making can be the reason not to achieve the goals and can replace the optimistic scenario of tourism development by a pessimistic one. The cognitive models could be improved by mapping on the relevant Big Data. The special author's approach to make the process of tourism strategic decision-making convergent was applied. This paper addresses the issue of using convergent approach to megapolis tourism development strategic planning with a lot of focus groups and cognitive modelling. The inverse problem solving with genetic algorithm helped to find effective strategic decisions and reduce risks of decision-making. For taking into account non-quantitative factors, it is suggested using networked expertise. The convergent approach with cognitive modelling was applied for creating the megapolis tourism development strategic plan for the megapolis. It helps to find the multiplying events and prioritize strategic directions for tourism development.

Keywords Artificial intelligence · Big data · Cognitive modelling · Convergent approach · Megapolis · Strategic planning · Tourism development

A. Raikov (✉)

Laboratory of Modular Information-management System, V. A. Trapeznikov Institute of Control Sciences of Russian Academy of Sciences, 65 Profsoyuznaya street, Moscow 117997, Russia
e-mail: Alexander.N.Raikov@gmail.com

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DOMANDE BUSTA 13

- Cookies e sessioni web: descrivere i principi di funzionamento e i campi di utilizzo
- VPN: descrizione e campi di applicazione
- Il Data Breach

DOMANDA NON SOTTESSTIATA

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Design and Implementation of Ancient and Modern Cryptography Program for Documents Security



Samuel Sangkon Lee

Abstract Encryption technology is to hide information in a cyberspace built using a computer and to prevent third parties from changing it. If a malicious user accesses unauthorized device or application services on the Internet of objects, it may be exposed to various security threats such as data leakage, denial of service, and privacy violation. One way to deal with these security threats is to encrypt and deliver the data generated by a user. Encrypting data must be referred to a technique of changing data using a complicated algorithm so that no one else knows the content except for those with special knowledge. As computers process computations that can be done at a very high speed, current cryptographic techniques are vulnerable to the future computer performance improvements. We designed and implemented a new encryption program that combines ancient and modern cryptography so that the user never knows about data management and transmission. The significance of this paper is that it is the safest method to combine various kinds of encryption methods to secure the weaknesses of the used cryptographic algorithms.

Keywords Ancient cryptography · Modern cryptography · Shift encryption · Polyalphabetic substitution · Transposition cipher · Nihilist encryption · DES and AES encryption · MVVM

1 Introduction

For a long time, cryptography has played an important role in safely storing and transmitting information. From the history of ancient cryptography, it can be observed that people have been discussing the importance of cryptography and creating systems for transmitting secret information since antiquity. These encryption technologies led to the creation of modern cryptography systems, and as modern computer technology is developing at an accelerated pace, the amount of information that must be stored by creating specialized systems is increasing rapidly. In the past, encryption

S. S. Lee (✉)
Jeonju University, Jeonju, Chonbuk 55069, South Korea
e-mail: samuel@jj.ac.kr

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DOMANDE BUSTA 5

- Concetto di Debugging e di ciclo di vita e visibilità delle variabili nei linguaggi di programmazione
- Descrivere il firewall e le sue caratteristiche in termini di sicurezza informatica
- Gli Organi dell'Università

DOMANDA NON SORTEGGIATA
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BRANO NON LOCASTATO

BUTTA 5

Formal Modeling and Analysis of Probabilistic Real-Time Systems



Christian Nigro, Libero Nigro and Paolo F. Sciammarella

Abstract This paper considers formal modeling and analysis of distributed timed and stochastic real-time systems. The approach is based on Stochastic Time Petri Nets (sTPN) which offer a readable yet powerful modeling language. sTPN are supported by special case tools which can ensure accuracy in the results by numerical methods and the enumeration of stochastic state classes. These techniques, though, can suffer of state explosion problems when facing large models. In this work, a reduction of sTPN onto the popular Uppaal model checkers is developed which permits both exhaustive non-deterministic analysis, which ignores stochastic aspects and it is useful for functional and temporal assessment of system behavior, and quantitative analysis through statistical model checking, useful for estimating by automated simulation runs probability measures of event occurrence. The paper provides the formal definition of sTPN and its embedding into Uppaal. A sensor network case study is used as a running example throughout the paper to demonstrate the practical applicability of the approach.

Keywords Stochastic time petri nets · Probabilistic real-time systems · Timing constraints · Model checking · Statistical model checking · Uppaal

C. Nigro
Independent Computer Professional, Rende, Italy
e-mail: christian.nigro21@gmail.com

L. Nigro (✉) · P. F. Sciammarella
DIMES, University of Calabria, Rende, Italy
e-mail: l.nigro@unical.it

P. F. Sciammarella
e-mail: p.sciammarella@dimes.unical.it

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