August 2025:Top Read Articles in Multimedia & Its Applications

The International Journal of Multimedia& Its Applications (IJMA)

---ERA,WJCI Indexed---

ISSN:0975-5578(Online);0975-5934(Print)

https://airccse.org/journal/ijma.html

INFORMATIONHIDINGUSINGAUDIOSTEGANOGRAPHY–ASURVEY

JayaramP[1],RanganathaHR[2], AnupamaHS[3]

[1,2,3]Department of ComputerScience and Engineering,RVCollegeofEngineering,Bangalore,INDIA

ABSTRACT

Today's large demand of internet applications requires data to be transmitted in a secure manner. Data transmission in public communication system is not secure because of interception and improper manipulation by eavesdropper. So the attractive solution for this problem is Steganography, which is theartandscience of writing hidden messages insucha waythat noone, apart from the sender and intend recipient, suspects the existence of the message, a form of security through obscurity. Audio steganography is the scheme of hiding the existence of secret information by concealing it into another medium such as audio file. In this paper we mainly discuss different types of audio steganographic methods, advantages and disadvantages.

KEYWORD

Steganography,Cryptography,AudioSteganography,LSB.

FullText:**https://aircconline.com/ijma/V3N3/3311ijma08.pdf**

VolumeLink:**https://airccse.org/journal/ijma_current11.html**

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AUTHORS

Jayaram P is currently doing his Engineering degree in R V College of Engineering Bangalore.Hehaspublished manypapersin National Conferences. Hisareasofresearch are Networking, Operating Systems, Data Structures, Computer Graphics and Mobile Computing.

Ranganatha H R is currently doing his Engineering degree in R V College of Engineering Bangalore. He has published many papers in National Conferences. His areas of research are Algorithms, Distributed Systems, Network security and Business Intelligence.

Anupama H S is working as an Assistant Professor in R V College of Engg Bangalore. ShedidBEin S.I.T College ofEnggTumkurandM.Tech in J.N.N.C.E CollegeShimoga, Karnataka, India. Her research of interest are Security, Steganography, Brain Computer Interface and Virtual Keyboard.

THECURRENTTRENDSOFAUGMENTEDREALITYINEARLYCHILDHOOD EDUCATION

MasyarahZulhaidaMasmuzidinandNorAzahAbdulAziz

DepartmentofCreativeMultimedia,UniversitiPendidikanSultanIdris,TanjungMalim,Perak Darul Ridzuan, Malaysia.

ABSTRACT

Augmented Reality has been widely used in various level of education such as higher-level education, secondary education (lower/upper secondary level), primary education, and ininformallearning.However,theimplementationinearlychildhoodeducationisstilllimited. Byusinglibraryresearchmethodology,theobjectiveofthispaperistoinvestigatethe existingworkofaugmentedrealityinearlychildhoodeducationbetween2009-2018.Based on the results, it shows that the publication of augmented reality in early childhood education increased slowly withinthesepast ten years. It hasbeenfoundthat the mainadvantage of augmentedreality is to enhance motivation. Early literacy has been found to be the most used topicwithsamplinglessthan30children.Finally,'Marker-based'augmentedrealityhas beenwidelyusedwithmobiledevicesandintermofdatacollectionmethods,'Test'hasbeenusedthe most in this field of research.

KEYWORDS

AugmentedReality,ChildComputerInteraction,EarlyChildhoodEducation,Preschool

FullText:https://aircconline.com/ijma/V10N6/10618ijma05.pdf

VolumeLink:https://www.airccse.org/journal/ijma_current18.html

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AUTHORS

Masyarah Zulhaida Masmuzidin obtained her MSc in Creative Media Technology with Computer Animation and Special Effects from University of Bradford, United Kingdom. Currently, she is a PhD student at Faculty of Art Computing and Creative Industry, Universiti Pendidikan Sultan Idris, Malaysia. Her research interest includes Interactive Multimedia, Child Computer Interaction, Virtual Reality and Augmented Reality.

Nor Azah Abdul Aziz is an Associate Professor at Faculty of Art Computing and Creative Industry, Universiti Pendidikan Sultan Idris, Malaysia. Her research interest includes Gestural Interface Design, Child Computer Interaction, Multimedia Application Development, Islamic Spiritual Psychology , Information Technology, Internet/Web Filtering,Internet & Society.

SELECTIONSORTINGALGORITHMVISUALIZATIONUSINGFLASH

HadiSutopo

DepartmentofInformatics,UniversitasPersadaIndonesiaYAI,Jakarta,Indonesiahadi@topazart.info

ABSTRACT

This paper is intended to develop an algorithm visualization, particularly selection sorting for an Algorithm and Programming course. Algorithm visualization technology graphically illustrates how algorithms work. This visualization can be used to explain how all data move to the proper position in order to be sortedin adisplay computer for education. Thisresearch consistsof 6 steps whichare concept, design, obtaining content material, assembly, testing, and distribution. Duringthe testingstep, theapplicationisrunandchecked toconfirm that itperformsexactlywhat the author has intended and the students can learn selection sorting algorithm by studying the visualization. Subjects of the research were students at Department of Informatics Universitas Persada Indonesia YAI for implementation of the learning. The data were analysed using the analytic descriptive method and interpreted ina narrative waybased onthe research findings. The algorithm visualization indicates that students increase their motivation and ability to program variety of sorting in programming language they learn.

KEYWORDS

Multimedia,Algorithm,Sorting,Flashmovie,ActionScript

FullText:https://aircconline.com/ijma/V3N1/3111ijma03.pdf

VolumeLink:https://www.airccse.org/journal/ijma_current12.html

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AUTHORS

Hadi Sutopo was born in Cilacap, Indonesia on April 15, 1945. He is Doctor of Education in Educational Technology of the Jakarta State University, graduated in November 2009. In 1998 he earned Master of Information Systems at Post Graduate Program Gunadarma University, Jakarta. In 1995 he graduated from the Universitas Persada Indonesia YAI. Jakarta, majoring in Informatics.

Hadiis currently a lecturer of Multimedia at the Universitas Persada Indonesia YAI and some otheruniversitiesin Jakarta, Indonesia since 1998. He wrote many books on multimedia and information technology. The books are Pemrograman Berorientasi Objek dengan Java (Yogyakarta, Indonesia: Graha Ilmu, 1995), Desain Buku dengan Adobe InDesign Jakarta, Indonesia: Elex Media Komputindo, 2006), and Pemrograman Flash dengan PHPdan MySQL(Yogyakarta,Indonesia: GrahaIlmu, 2007). Current interestresearchisinformationtechnology especiallymultimedia.

Dr. Hadi Sutopo, MMSI is a member of Indonesian Association of Educational Technology (IPTPI)and Association of Education and Communication Technology (AECT). He works in editorial team of Educational Technology Journal and Multimedia Journal in Jakarta, Indonesia.

THEIMPACTOFVRGRAPHICALUSERINTERFACEONOCULUSTOUCH CONTROLLER AND OCULUS RIFT

NatchaphakMeeusahandBennapaPattanapipat

MultimediaTechnology,FacultyofMassCommunicationTechnology,RajamangalaUniversityof Technology Thanyaburi, Thailand

ABSTRACT

It is undeniably true that Virtual Reality (VR) has continuously been developed since 1800s and still have been produced till today. However, very few studies have attempted to study on the design of Virtual Reality Graphical User Interface (VR-GUI) that effectively empowers users to interact and immerse in a simulated world, via hardware and software with ease. Therefore, the aims of this research are to compare four different types of VR GUI Controller designs including (2D, 2D animation, 3D, and 3D animation) and to determine UI response time of the Oculus Touch Controller andcomparetheresults with UIresponsetime ofOculus Rift todeterminewhat VR GUI isappropriate for which ages. 168 participants were purposely selected, aged from 12 to 17, 18 to 33,and 34 to 45. The experiment results showed that VR GUI had a significant impact on UI response time resulted fromdifferent types of VR GUI controllers. Lastbut not least, analysisof VR GUIcontroller user data had suggested that VR GUI developers should design appropriate VR GUI controllers that match all agegroups inorder for themtoexperiencea fullyimmersive, perceptuallyreal environment asquickly and efficiently as possible.

KEYWORDS

VRGUI,OculusTouchController,OculusRift,VirtualReality,Generation,Interactive. Full

Text: **https://aircconline.com/ijma/V13N6/13621ijma03.pdf**

VolumeLink:**https://airccse.org/journal/ijma_current21.html**

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ANALTERNATIVEGREENSCREENKEYINGMETHODFORFILMVISUALEFFECTS

JinZhi

DepartmentofCreativeProfessions&DigitalArts,UniversityofGreenwich,UnitedKingdom

ABSTRACT

Thisstudyfocusesonagreenscreenkeyingmethoddevelopedespeciallyforfilmvisualeffects.Therearea series of ways of using existingtools for creating mattes fromgreen or bluescreenplates. However, it isstilla time-consumingprocess, andtheresultsvaryespeciallywhenit comestoretainingtinydetails, suchas hair andfur.This paper introduces analternativeconcept and methodfor retaining edgedetails of characters ona greenscreenplate, also, a number of connected mathematical equations areexplored. At the end of this study, a simplified process of applying this method in real productions is also tested.

KEYWORDS

DigitalCompositing,GreenScreenKeying,VisualEffects

FullText:**https://aircconline.com/ijma/V7N2/7215ijma01.pdf**

VolumeLink:**https://airccse.org/journal/ijma_current15.html**

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AUTHORS

Dr Jin Zhi has a very wide higher education background in tradition art, design and digital moving images, film production as well asfilm visual effects and 3DCGI. Jinis currentlyworkingatCreativeProfessions &DigitalArts,UniversityofGreenwich.In the past 10 years, Jin worked in various VFX studios including The Moving Picture, London and Cinesite Kodak Visual Effects. Meanwhile, Dr Jin also worked as a visiting lecturer in anumber of universities in theUK as well asSouth Korea such as University of Westminster, London and Konkuk University in Seoul, South Korea.As a film VFX Compositor, Jin’s visual effects works are included in followingcommercialfeaturefilms:Prometheus(2012),WrathoftheTitans(2012), John Carter (2012), Harry Potter and the Deathly Hallows: Part 2 (2012). Jin’s expertise and research interests widelycovered in differentareasin film &television post-production, especiallyfilm digital compositing,film& TV visualeffects productions, creating3D CGelements for featurefilmsas well asdigitalmovingimagedesign, etc. In addition, Dr Jin has been certified as a NukeTrainer bythe FoundryUK in 2015.

THEDEVELOPMENTOFADIGITALSTORYBOOKANDANAUGMENTEDREALITY (AR)-BASED PROVERBS APPLICATION

JamilahHamid[1],NorHasbiahUbaidullah[1]andAhmadYasirBahador[21]FacultyofArts,Comput

ing&CreativeIndustry,SultanIdrisEducationUniversity, Malaysia
[2]SekolahMenengahMethodist,TgMalim,Perak,Malaysia

ABSTRACT

LearningMalayproverbs is very important tosustaintherich heritage of theMalaycivilizationamong young generations. However, pilot study and literature review show that students face problems in understanding proverbs when learning using conventional method. Thus, this paper discusses the development of a digital storybook to help the learning of selected Malays proverbs under the unity theme using Augmented Reality (AR) technology. The application development was divided into two parts; development of the AR-based proverbs application and the development of a digital story. For the first part, the application was developed based on the combination of waterfall methodology, learning theory principles and AR application development guidelines. For the second part, the development is relied on the digital story development guidelines. This application development can serve as important guidelines for the developers to develop suitableapplications using AR technology to help students learn a range of important learning concepts.

KEYWORDS

Augmentedreality,digitalstorybook,learningtheory,Malayproverbs,mobileapplication.Full

Text: **https://aircconline.com/ijma/V10N6/10618ijma12.pdf**

VolumeLink:**https://airccse.org/journal/ijma_current18.html**

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AUTHORS

Dr.JamilahHamidisasaSeniorLecturerinFacultyofArt,Computingand Creative Industry, Sultan Idris Education University. Sheholds a Bachelor ofScience in Education (Hons.) majoring in Mathematics and Master of Science (Information Technology). She obtained her PhD in Internet and Web Computing from Sultan Idris Education University, Malaysia. She has been teaching in high education institutions since 1991 in several subjects such as Programming, Methodology in Courseware Development, Educational Technology and Teaching Methodology. Her research interests are on Virtual Reality, Augmented Reality, Educational Technology and Educational Software.

Dr. Nor HasbiahUbaidullah is working as an Associate Professor at Universiti PendidikanSultanIdris.ShereceiveddegreeinComputer SciencefromUniversiti Kebangsaan Malaysia and Master of Science in Information System from Universityof Salford. She obtained her PhD degree in Information Technology from Universiti Kebangsaan Malaysia. Her research areas include Courseware Engineering,DSS,LearningDisabilityChildren,Systems/ProductDevelopment, Programming C++ and JAVA.

Ahmad Yasir bin Bahador is a secondaryschool teacher at SMK Methodist. He holds a certificate in education majoring in PengajianMelayu from Kota Baharu Teaching Collage. He obtained a bachelor degree in IT Education and Master degreeinMultimediaEducationfromUniversitiPendidikanSultanIdris,Malaysia. Hehasbeen teachinginschoolsince1997in severalsubjectssuchasBahasaMelayu (Malay Language), Kemahiran Hidup (Life Skills), LiterasiKomputer(Computer Literacy)and AsasSainsKomputer (Basic Computer Science). He has 12 years' experience in teaching Form 1 Bahasa Melayu. His research interests are on Educational Technology and Educational Software.

THE RESULTS OF THE BLENDED LEARNING ACTIVITIES COURSE OF INNOVATIONANDINFORMATIONTECHNOLOGYFORCOMMUNICATION AND LEARNING

ThanatchaRattanaphantandSenaweeRoekmongkol

MajorofDigitalTechnologyforEducation,FacultyofEducationRajabhatNakhonSi ThammaratUniversity,NakhonSiThammarat, Thailand

ABSTRACT

The objectives of this research were: 1) to find the effectiveness of theblended learning management activity package 2) to compare the learning achievement 3) to study memory retention and 4) to study the satisfaction with the blended learning activities. The research sample consisted of 3 0 1 st year students enrolled in the Innovation and Information Technology for Communication and Learning course in the 2nd semester of the academic year 2 0 2 0 in the Major of General Science, Faculty of Education, Rajabhat NakhonSi Thammarat University. Theresearchtools were: 1) a blended learning management activity package, and 2) an online questionnaire on the satisfaction of the learners with theblended learningactivities. Thestatistics usedinthedata analysis weremean, S. D.and hypothesis testing using t-test Dependent. 1) The developed efficiency was 8 0 .5 8 /8 7 .6 7 , which was the efficiency according to the specified criteria8 0 /8 0 . 2) The statistically significant comparison ofthelearningachievementafter receivingthelearningmanagement washigher thanbeforethelearning management at the.05 level. 3) Thestudyof memoryretentionafter 2 weeks of learning managementwas not significantly different at the .05 level and 4) The overall of the satisfaction blended learning activities were at the highest level.

KEYWORDS

BlendedLearningActivities,MemoryRetention,Satisfaction

FullText:**https://aircconline.com/ijma/V14N1/14122ijma02.pdf**

VolumeLink:**https://airccse.org/journal/ijma_current22.html**

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AUTHORS

Firstauthor:Ms.ThanatchaRattanaphant1
E-mail : thanatcha_rat@nstru.ac.th
Occupation : Lecturer
Workplace:MajorofDigitalTechnologyforEducation, FacultyofEducation Rajabhat Nakhon Si Thammarat University, Nakhon Si Thammarat, Thailand
EducationalBackground:Ph.D.(ComputerEducation),KingMongkut'sUniversityofTechnology North Bangkok

Correspondingauthor:Mr.SenaweeRoekmongkol2
E-mail :
senawee_roe@nstru.ac.thOccupation:Lecturer
Workplace:Major ofDigitalTechnologyfor Education,FacultyofEducation RajabhatNakhon SiThammaratUniversity,NakhonSiThammarat,Thailand
EducationalBackground:M.Ed(EducationTechnology),KasetsartUniversity

GAMIFICATIONELEMENTSANDTHEIRIMPACTSONTEACHINGAND LEARNING – A REVIEW

MohdHishamuddinAbdulRahman,Ismail@IsmailYusufPanessai,NoorAnidaZaria MohdNoor and Nor Syazwani Mat Salleh
DepartmentofComputing,FacultyofArt,Computing&Creative Industry,Universiti PendidikanSultan Idris, Tanjung Malim, Perak, Malaysia

ABSTRACT

This paper discusses the results of a literature review to identify the elements of gamification in learning that have been applied in previous studies and their impacts on student learning, withonlytaking intoaccounttherelated studieswithinthe last three years(2016 to2018).This isdoneto determine the most effective and suitable elements of gamification to be applied in our study and at the same time to identify research gaps that need to be fulfilled in future researches. The results ofthis review show thatgamificationhas positive impact onstudent learningparticularlyin their engagement and achievement. Furthermore points, leaderboard and digital badge are themost applied gamification elements in the studies. The findings will be used as a guide forusin designing a gamified collaborative learning activities in the 3-dimensional virtual world that will becarried out later.

KEYWORDS

Gamification,Game-basedLearning,VirtualWorld

FullText:https://aircconline.com/ijma/V10N6/10618ijma04.pdf

VolumeLink:https://www.airccse.org/journal/ijma_current18.html

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AUTHORS

Dr.MohdHishamuddinAbdulRahmanisaseniorlectureratthe FacultyofArt,Computing&Creative Industry,UniversitiPendidikanSultanIdris(UPSI).Hisresearchinterestsaretowardseducational technology,multimedia,virtuallearningenvironment,game-basedlearningandgamification,virtualandaugmentedrealityandalsoonnewmediainteachingandlearning.

Dr. Ismail @ Ismail Yusuf Panessai is a senior lecturer at the Faculty of Art, Computing &CreativeIndustry,UniversitiPendidikanSultanIdris (UPSI).His research interests are towardsArtificial Intelligence,ArtificialIntelligenceineducation,VRPandControlSystem.

Dr. Noor Anida Zaria Binti Mohd Noor is a senior lecturer at the Faculty of Art, Computing & Creative Industry, Universiti Pendidikan Sultan Idris (UPSI). Her research interests are towards Information Technology,KnowledgeManagement,KnowledgeIntegrationandProjectManagement.

Dr.NorSyazwaniBintiMatSallehis asenior lecturerat the Faculty of Art,Computing&Creative Industry,UniversitiPendidikanSultanIdris(UPSI).HerresearchinterestsaretowardsICTsin Education,Art&Design,GraphicDesignandPersonalizedLearning.

ANEVALUATIONOFTHEUSEOFAUDIOGUIDANCEINAUGMENTED REALITYSYSTEMSIMPLEMENTEDATSITESOFCULTURALHERITAGE

BenjaminWilson,JoshuaHullandDamianSchofield

DepartmentofComputerScience,StateUniversityofNewYork,Oswego,NewYork,13126,USA

ABSTRACT

Recently, museums and historic sites have begun reaching out beyond their traditional audience groups, using more innovative digital display technology to find and attract a new audience. Virtual, mixed, and Augmented Reality (AR) technologies are becoming more ubiquitous in our society and “virtual history” exhibits are starting to be available to the public. There are numerous studies focusing on AR, however a scant amount of research is being done at historical sites. An initial experiment used repeated measures (ANOVA) to compare and rank three different types of AR devices usedat a siteofculturalheritage. Afurther experiment was thenundertakento observe participants using two different AR devices with and without sound to determine if which device used or the presence of sound impact the usability of the device, or the user’s satisfaction/preference of specific devices. Several surveys, including demographic and usability surveys, were provided in order to collect a range of user data. A two-way repeated measures (ANOVA) were used to analyze the quantitative data gathered. No significant effects were observed based on the quantitative data provided by the surveys, indicating that all devices were equally usable and satisfactory, and that sound did not have a significant impact in this instance. However, thequalitativedata indicatedthat users mayprefer usingAR technologyonasmartphone device and preferred to use this device paired with sound.

KEYWORDS

AugmentedReality,AudioGuide,CulturalHeritage,HumanComputerInteraction(HCI),Usability

FullText:**https://aircconline.com/ijma/V14N2/14222ijma01.pdf**

VolumeLink:**https://airccse.org/journal/ijma_current22.html**

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AUTHORS

BenjaminWilsonrecentlycompletedamastersdegreeinHuman-ComputerInteractionfromtheStateUniversityof New York at Oswego.

Joshua Hullrecentlycompletedamastersdegreein Human-ComputerInteraction fromtheStateUniversity of New York at Oswego.

DamianSchofieldisafullprofessor anddirectoroftheHuman-ComputerInteractionmastersprogramattheState University of New York at Oswego

TRANSMISSIONOFSUCCESSFULROUTEERRORMESSAGE(RERR)IN ROUTINGAWAREMULTIPLEDESCRIPTIONVIDEOCODINGOVER MOBILE ADHOC NETWORK

KinjalShah,GaganDua,DharmendarSharma,PriyankaMishra,NitinRakesh

DepartmentofComputerScience&Engineering,JaypeeUniversity,Waknaghat,Dist.Solan(H.P)
kinjal.93@gmail.com,d.sharma000@gmail.com,dua.gagan@live.in,mishrapriyanka6@gmail.com,nitin.rakesh@gmail.com

ABSTRACT

Videotransmissionover mobilead-hoc networks is becoming important asthesenetworks become morewidelyusedinthewireless networks. Weproposea routing-aware multiple descriptionvideo coding approach to support video transmission over mobile ad-hoc networks with single and multiple path transport. We build a model to estimate the packet loss probability of each packet transmitted over the network based on the standard ad-hoc routing messages and network parameters without losing theRERR message. Wethen calculatetheframeloss probability inorder to eliminate error without any loss of data.

KEYWORDS

NetworkProtocols,WirelessNetwork,MobileNetwork,Virus,Worms&Trojan Full

Text:**https://aircconline.com/ijma/V3N3/3311ijma05.pdf**

VolumeLink:**https://airccse.org/journal/ijma_current11.html**

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AUTHORS

Kinjal Shah received his B.E degree in Computer Engineering from Arvindbhai.D.Patel Institute of Technology,NewVallabhVidyanagar, Distt.Anand in 2009. He is currently pursuing MTECH degree in Computer Science & Engineeringat Jaypee UniversityofInformation Technology,Waknaghat,Solan173215. His research interest includes Cloud Computing, Cryptography & Network Security, Multimedia Data Transmission in ad-hoc networks.

GaganDua received his B.E. degree in Computer Engineering from ShriKrishan Institute of Engineering & Technology, Kurukshetrain2009. HecompletedhisthreeyearsdiplomainComputerEngineerign from Seth Jai Parkash Polytechnic, Damla (Yamunanagar, Haryana).Currentlyhe ispursuingMTECHdegree in Computer Engineeringat Jaypee UniversityofInformation Technology, waknaghat, Solan173215. His areas of interest are multimedia data communication & microprocessor.

Dharmendar Sharmareceived his B.E degree in InformationTechnologyfrom AjayKumar GargEngineering College, Ghaziabad in 2009. Currentlyheis pursuingMTECHdegree in Computer Science & Engineeringat JaypeeUniversityof Information Technology, waknaghat, Solan-173215. His area of interests are data warehousing & data Mining, data communication & networking.

Priyanka Mishrareceivedher B.E degreeinElectronics&CommunicationEngineeringfrom BBScollegeof Engineering & Technology, Allahabad in 2009. Currently she is pursuing MTECH degree in Electronics & Communication EngineeringatJaypee UniversityofInformationTechnology, waknaghat, Solan-173215.Her area of interests are data communication & networking.

NitinRakesh is Sr. Lecturer in the Department of Computer Science and Engineering & Information Technology, Jaypee University of Information Technology (JUIT), Waknaghat, Solan–173215, Himachal Pradesh, India. In 2004, hereceived the Bachelor’s Degree in Information Technology and Master’s Degreein Computer Science and Engineering in year 2007. Currently he is pursuing his doctorate in Computer Science and Engineering and his topic of research is parallel and distributed systems. He is a member of IEEE,IAENGand isactivelyinvolved in research publication. His research interest includes Interconnection Networks & Architecture, Fault–tolerance & Reliability, Networks–on–Chip, Systems– on–Chip, and Networks–in–Packages, Network Algorithmics, Parallel Algorithms, Fraud Detection. Currently he is working on Efficient Parallel Algorithms for advanced parallel architectures.