CALLS FOR ARTICLES FOR COMPUTER

Computer seeks submissions for an April 2013 special issue on cybersecurity.
Cybersecurity is an emerging area of intense activity that endeavors to provide innovative solutions to ensure uninterrupted communications and service availability.

This special issue aims to disseminate the latest advances in cybersecurity that are critical in thwarting future threats, attacks, fraud, and damage. The content will focus on effective techniques and approaches that have the potential to ensure a safe, trustworthy, secure, and resilient cyberspace.

Appropriate topics of interest include but are not limited to cybersecurity approaches for protecting the critical infrastructure in public sectors (water, electricity, gas, transportation, and so on); cyber threat modeling and analysis; solutions to mitigate cyber attacks and cybercrime; cyber forensics; visual analytics and risk management techniques; testbeds, tools, and methodologies for cybersecurity experimentation; and cybersecurity education, policy, law, and regulation.

All manuscripts are subject to peer review on both technical merit and relevance to Computer’s readership. Accepted papers will be professionally edited for content and style.

The guest editors for this special issue include Sherali Zeadally, University of the District of Columbia (szeadally@udc.edu); Gregorio Martinez, University of Murcia, Spain (gregorio@um.es); and Han-Chieh Chao, National Ilan University, Taiwan (hcc@niu.edu.tw).

Paper submissions are due by 1 November 2012. For author guidelines and information on how to submit a manuscript electronically, visit www.computer.org/portal/web/peerreviewmagazines/computer.

Computer seeks submissions for a May 2013 special issue on cutting-edge research in visualization.
It has been more than 25 years since the National Science Foundation Panel on Graphics, Image Processing, and Workstations published its landmark report, “Visualization in Scientific Computing.” Since then, the field of visualization has expanded to encompass scientific visualization, information visualization, and visual analytics, as well as many other subfields.

The guest editors particularly welcome articles that feature critical evaluation of the state of the art; scenario-based vision statements; insightful analysis of feasibility, major obstacles, expected paradigm shifts, and building blocks drawn from advances in other disciplines; and discussion of road maps and their expected impact on science, technology, and society.

Suggested research topics for submission include cognition in visualization, visualization literacy, visual analytics systems, and emerging challenges—for example, connectome datasets.

Articles should be understandable to a broad audience of computing science and engineering professionals. The writing should be practical and original, avoiding detailed discussions of individual theories, theorems, algorithms, or abstract concepts, and minimizing the use of mathematical notations and technical jargon. All manuscripts are subject to peer review on both technical merit and relevance to Computer’s readership. Accepted papers will be professionally edited for content and style.

The guest editors for this special issue are independent visualization consultant Theresa-Marie Rhyne (theresamarierhyne@gmail.com) and Min Chen of Oxford University (min.chen@oerc.ox.ac.uk).

Paper submissions are due by 1 October 2012. Please e-mail the
guest editors a brief description of the article you plan to submit by 15 September 2012.

For author guidelines and information on how to submit a manuscript electronically, visit www.computer.org/portal/web/peerreviewmagazines/computer.

Computer seeks submissions for an October 2013 special issue on multicore memory coherence.

As we enter an era of large multicore systems, the question of efficiently supporting a shared memory model has become more important. Massively parallel architectures lacking coherent shared memory have enjoyed great success in niche applications such as 3D rendering, but general programming developers still demand the convenience of a shared memory abstraction.

Efficiently using the Message Passing Interface requires that individual computation tasks must be relatively large to overcome communication latencies. It becomes difficult to use MPI at the fine-grained level when fast on-chip communication is available. Higher-level mechanisms like MapReduce or shard-based databases are popular in particular application domains, though researchers have not yet efficiently applied them at the chip/node level.

This special issue will focus on approaches to providing scalable, shared memory on the on-chip level, paramount in a future where individual nodes will have on the order of 1,000 cores each.

Suggested topics include but are not limited to private and shared cache hierarchies; scalable memory coherence protocols, directory-based and otherwise; data layout and placement techniques; on-chip interconnects to support shared-memory abstractions; and hardware, software, and hybrid approaches.

Articles are due by 1 March 2013. Visit www.computer.org/computer/cfp10 to view the complete call for papers.

**CALLS FOR ARTICLES FOR IEEE CS PUBLICATIONS**


Scattering plays a fundamental role in important applications in many disciplines, from the increasing use of volumetric and atmospheric effects for games and films in the entertainment industry, to estimating weather conditions in meteorology, to predicting the visual appearance of skin and pigments for cosmetics.

Modeling how light scatters with matter is essential in many scenarios—such as designing efficient participating media rendering algorithms, developing devices for acquiring volumetric phenomena, creating tools for authoring volumetric structures, and analyzing and editing foggy images.

Contributions that cover all aspects of scattering in graphics—including both theory and practice, ranging from physically based or physically inspired methods to artistic tools and nonphotorealistic applications—are welcome. Multimedia enhancements are encouraged.

Articles are due 25 August 2012. Visit www.computer.org/portal/web/computingnow/cgacfp3 to view the complete call for papers.

IEEE Software plans a May/June 2013 special issue on safety-critical software systems.

We are becoming increasingly dependent on devices whose software-based artifacts impact our safety. Such is the case in the aviation, automotive, medical, nuclear, and railways sectors, as well as others.

The development of safety-critical software systems encompasses a wide set of challenges including soft-

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### EVENTS IN 2012

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### VISWEEK 2012

VisWeek 2012 focuses on scientific and information visualization and explores tools, techniques, and technology. It is geared toward researchers and practitioners from academia, government, and industry.

The event will include the IEEE Scientific Visualization, IEEE Information Visualization, and IEEE Visual Analytics Science and Technology conferences, as well as the IEEE Large-Scale Data Analysis and Visualization, IEEE Biological Data Visualization, and Visualization for Cyber Security symposia.

VisWeek will take place 14-19 October in Seattle. Visit www.visweek.org for complete conference information.
The Internet is a battleground where fights for technical, social, and political control are waged, including between governments and their citizens, separate governments, and competing commercial interests. These conflicts take many forms, including Internet filtering versus circumvention, surveillance versus anonymization, denial-of-service attacks and intrusion attempts versus protection mechanisms, and on- and offline persecution and defense of online activists. As the Internet continues to embed itself into our world, its structural changes will have an increasing effect on our social and political structures, and these structures will have an increasing impact on the Internet’s technical structure.

This special issue of IEEE Internet Computing seeks articles on the technical, social, and political mechanisms and impact of Internet censorship and control. The guest editors are soliciting both technical and social science articles, and especially encourage those that combine the two topics.

Articles are due 1 September 2012. Visit www.computer.org/portal/web/computingnow/iscfcp3 to view the complete call for papers.

IEEE Internet Computing plans a May/June 2013 special issue on devops at scale.

Today, we practically take for granted the continuous presence of large-scale Internet and cloud services as offered by Amazon, Google, Facebook, and Twitter, but it has taken years of significant effort to get to this point. It has required research and development both in areas such as software, hardware, networking, storage, and computer systems in general and in the processes and practices used by developers and operations staff.

The sheer volume and rapidity of the iterations in development, deployment, and debugging required to keep these services not only up and running but, in the case of websites, also fresh and interesting has forced a confluence of the traditionally separate areas of development, operations, and quality assurance. This merger, known as “devops,” represents an entirely new way of developing, operating, and evolving large-scale Internet sites.

This special issue seeks contributions characterizing the benefits and challenges that devops can bring to organizations involved in large-scale Internet services, cloud computing, and websites.

Articles are due 1 November 2012. Visit www.computer.org/portal/web/computingnow/iscfcp4 to view the complete call for papers.

IEEE Intelligent Systems plans a July/August 2013 special issue on emergency management.

Emergency management is a critical function of governments and societies. Researchers aim to develop frameworks, tools, systems, and policies to support organizations and people dealing with natural and manmade events of an unexpected nature. Both emergency-management practice and research have gone through major changes in the past decade, largely due to technological
advances in sensor, networking, and communications technologies.

Without doubt, emergency management has entered a new age characterized by significant opportunities and challenges. For example, social media is being used as a major tool to disseminate emergency information and as a collaboration platform. Advances in sensor network, GIS, and collaboration technologies have significantly expanded what emergency-management decision-making platforms can do.

The special issue seeks innovative contributions that show direct relevance to at least one AI subfield, particularly multidisciplinary research presenting substantive findings with real-world implications.

 Articles are due 1 November 2012. Visit www.computer.org/portal/web/computingnow/scfcp4 to view the complete call for papers.

Computing in Science & Engineering plans a July/August 2013 special issue on cloud computing in science and engineering.

Cloud computing has emerged as a dominant paradigm, widely adopted by enterprises. Clouds provide on-demand access to computing utilities, an abstraction of unlimited computing resources, and support for on-demand scale-up, scale-down, and scale-out. Cloud platforms are also rapidly becoming viable for scientific exploration and discovery, as well as education. As a result, it is critical to understand application formulations and usage modes that are meaningful in such a hybrid infrastructure, the fundamental conceptual and technological challenges, and ways that applications can effectively utilize clouds.

The goal of this special issue is to explore how cloud platforms and abstractions, either by themselves or in combination with other platforms, can effectively support real-world science and engineering applications. Topics of interest include but are not limited to algorithmic and application formulations, programming models and systems, runtime systems and middleware, end-to-end application workflows, and experiences with real applications.

Submissions that include multimedia, data, and community content are encouraged.

Articles are due 4 November 2012. Visit www.computer.org/portal/web/computingnow/cscfp4 to view the complete call for papers.

CALENDAR

SEPTEMBER 2012

19-23 Sep: PACT 2012, 21st Int'l Conf. on Parallel Architectures and Compilation Techniques, Minneapolis; www.pactconf.org


OCTOBER 2012

9-12 Oct: E-Science 2012, 8th IEEE Int'l Conf. on e-Science, Chicago; www.ci.uchicago.edu/esience2012

14-19 Oct: VisWeek 2012, Seattle; www.visweek.org


DECEMBER 2012
1-5 Dec: MICRO 2012, IEEE/ACM Int'l Symp. on Microarchitecture, Vancouver; www.microsymposia.org/micro45

3-6 Dec: CLOUDCOM 2012, 4th IEEE Int'l Conf. on Cloud Computing Technology and Science, Taipei, Taiwan; www.cloudcom.org


10-12 Dec: ICIOS 2012, First IEEE Int'l Conf. on Internet Operating Systems, Irvine, California; http://icipos.wordpress.com

11-14 Dec: ICDM 2012, IEEE Conf. on Data Mining, Brussels; http://icdm2012.ua.ac.be

17-19 Dec: SOCA 2012, 5th EEE Conf. on Service-Oriented Computing and Applications, Taipei, Taiwan; http://conferences.computer.org/soca

NOVEMBER 2012
5-8 Nov: ISMAR 2012, IEEE Int'l Symp. on Mixed and Augmented Reality, Atlanta; www.ismar12.org


11-15 Nov: ICPR 2012, 21st IEEE Int'l Conf. on Pattern Recognition, Tsukuba Science City, Japan; www.icpr2012.org


3-6 Dec: CLOUDCOM 2012, 4th IEEE Int'l Conf. on Cloud Computing Technology and Science, Taipei, Taiwan; www.cloudcom.org


10-12 Dec: ICIOS 2012, First IEEE Int'l Conf. on Internet Operating Systems, Irvine, California; http://icipos.wordpress.com

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