CALLS FOR ARTICLES FOR COMPUTER

Computer plans an April 2016 special issue on human augmentation.

Human augmentation encompasses technologies that enhance productivity and improve or restore capabilities of the human body or mind. Such technologies are designed to empower and improve health, quality of life, and performance.

Examples include devices that contribute to more advanced sensory capabilities such as glasses for viewing augmented visual content, or limb-like devices that enhance motion or muscle capabilities with minimal invasiveness.

Other types of human augmentation might work with specific IT resources such as big data assets. These include watches or other wearable electronics that link wearers to outside sources of information that might be visual-, audio-, or text-based.

This special issue will focus primarily on approaches that work with computing technologies rather than pharmaceutical, psychological, or physiological approaches. Articles could address examples of human-augmentation technologies and systems, an overview of a specific application area, or technical challenges.

Articles are due 1 October 2015. Visit www.computer.org/computer/cfp4 to view the complete call for papers. Computer plans an August 2016 special issue on supply-chain security for cyberinfrastructure.

The design, fabrication, assembly, distribution, integration, and disposal of today’s electronic components, systems, and software involve multiple untrusted parties. Recent reports demonstrate that this long and globally distributed supply chain is vulnerable to counterfeiting (including cloning, overproduction, and recycling) and malicious design modification (such as Trojan attacks). The issues associated with counterfeit components include security and reliability risks to critical systems as well as profit and reputation loss for intellectual property owners, all of which discourage innovation in system development. Recent bugs such as Heartbleed show that security gaps are acceptable, the guest editors strongly encourage those that address problems with all steps of the supply chain and/or hardware-software integration.

Articles are due 1 February 2016. Visit www.computer.org/computer/cfp8 to view the complete call for papers.

CALLS FOR ARTICLES FOR OTHER IEEE CS PUBLICATIONS


The ability to collect and generate data has grown dramatically. Concurrently, computing technology has rapidly evolved from single-processor machines to large-scale, high-performance systems. The confluence of these factors introduces new research challenges and opportunities for high-performance scientific visualization and analysis.

Articles are due 1 September 2015. Visit www.computer.org/web/computingnow/cgacfp3 to view the complete call for papers.

IEEE Transactions on Emerging Topics in Computing (TETC) plans a special issue on approximate and stochastic computing circuits, systems, and algorithms, slated for the third issue of 2016.
The past decade has seen renewed interest in nontraditional computing paradigms. Several of these paradigms leverage error resiliency by not requiring exactness in computing.

This special issue focuses on research into the novel design and analysis of approximate and stochastic computing. Approximate computing is driven by energy efficiency, whereas stochastic computing achieves fault tolerance and area savings through randomness.

Articles are due 1 September 2015. Visit www.computer.org/cms/Computer.org/transactions/cfps/cfp_tetc_aascsa.pdf to view the complete call for papers.

IEEE Transactions on Emerging Topics in Computing (TETC) plans a special issue on low-power image recognition, slated for late 2015.

Many of today’s images and videos are captured using smartphones, and these devices’ cameras can be used for multiple imaging applications, from high-fidelity location estimation to posture analysis. However, image processing is computationally intensive and consumes considerable energy, both of which present problems for resource-constrained mobile devices.

This special issue focuses on the intersection of image recognition and energy conservation. Articles should describe energy-efficient systems that perform object detection and recognition in images.

Because this issue aims to establish the state of the art in this area, all articles must include results achieved on a common core of datasets and training images and based on the same metrics.

Articles are due 1 September 2015. Visit www.computer.org/cms/Computer.org/transactions/cfps/TETCLuBerg.pdf to view the complete call for papers.

IEEE Internet Computing plans a July/August 2016 special issue on measuring the Internet.

Measurements are crucial to the Internet’s evolution. At the infrastructure level, measurement helps identify bottlenecks where innovation and investment would be especially beneficial. At the application level, measurement characterizes user behavior, driving application development to satisfy evolving user needs.

The Internet, however, is notoriously difficult to measure, as its scale, diversity, and opacity present challenges to collecting representative data. The ethics of collecting and observing information are also concerns.

This issue will explore the challenges in obtaining and processing Internet measurement data, as well as provide new measurement-driven insights into the Internet and its users.

Brief article descriptions are due 30 September 2015. Articles are due 30 October 2015. Visit www.computer.org/web/computingnow/iccfp4 to view the complete call for papers.


The computer graphics community has successfully exploited knowledge about the human visual system and its limitations for several years. This field is increasingly active across diverse research areas but has received relatively little attention.

This special issue will focus on visual quality and perception for computer graphics. The guest editors solicit papers describing innovative, perception-related computer graphics techniques.

Articles are due 1 November 2015. Visit www.computer.org/web/computingnow/icgacfp4 to view the complete call for papers.


Ad hoc, sensor, and mesh networks have attracted significant attention by academia and industry in the past decade. In recent years, however, new paradigms in these areas have appeared as a result of the increased number and processing power of smartphones and other portable devices. Furthermore, new applications and emerging technologies—such as smart homes, body area networks, and the Internet of Things—have created new research challenges for ad hoc networks.

The focus of this special issue is on novel applications, protocols, and architectures; nontraditional measurement, modeling, analysis, and evaluation approaches; prototype systems; and experiments in ad hoc, sensor, and mesh networks.
IEEE Intelligent Systems and IEEE Internet Computing plan a September/October 2016 joint special issue on cyberphysical security and privacy.

Cyber-physical systems (CPSs) integrate computing and communication capabilities with the monitoring and control of physical systems such as power grids, water treatment plants, and factories. The widespread growth of wireless embedded sensors and actuators is creating new CPS applications and increasing the information infrastructure’s role in control systems.

Many CPS applications are safety-critical. Their failure could cause irreparable harm to the physical system under control and the people who depend on it. These applications thus require strong security as well as privacy protection in many cases.

To address these issues, the guest editors invite original research papers, including submissions from multidisciplinary backgrounds.

Brief article descriptions are due 14 December 2015. Articles are due 14 January 2016. Visit www.computer.org/intelligent/cfp5 to view the complete call for papers.

IEEE Intelligent Systems plans a September/October 2016 special issue on intelligent cybersecurity agents.

Cybersecurity is of utmost importance to the development of a sustainable, resilient, and prosperous cyber world. In the past few years, cyber-criminals have attacked targets using a broad range of tactics, devising professional approaches to monetizing exploits and conducting both political and industrial espionage.

To deal with these threats, the security community is looking at more intelligent, distributed, and adaptable security mechanisms, including intelligent agents. However, agent technologies can’t provide a drop-in replacement for current methods and systems but instead must be carefully crafted to work with them.

This special issue will explore state-of-the-art research on new tools, techniques, concepts, and applications for agent-based cybersecurity approaches.

Articles are due 1 January 2016. Visit www.computer.org/intelligent/cfp5 to view the complete call for papers.

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and Communications, Abu Dhabi, UAE; http://conferences.computer.org/wimob2015/


NOVEMBER 2015


DECEMBER 2015


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**UCC 2015**


Providers use cloud computing to deliver computational resources on demand to customers, much like traditional utilities provide electricity, gas, and water.

Use of the cloud for these purposes, as well as to host software and data, is growing rapidly. Understanding how to transform these services into utilities that provide value to both users and providers is essential.

UCC is the premier IEEE/ACM conference on cloud computing as a utility and provides an international forum for leading researchers and practitioners in this important field.


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*IEEE Computer Graphics and Applications* seeks computer graphics-related multimedia content (videos, animations, simulations, podcasts, and so on) to feature on its homepage, www.computer.org/cga.

If you’re interested, contact us at cga@computer.org. All content will be reviewed for relevance and quality.

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Selected CS articles and columns are also available for free at http://ComputingNow.computer.org