CALLS FOR ARTICLES FOR COMPUTER

Computer plans a December 2015 special issue on rebooting computing.

Alan Turing’s and John von Neumann’s ideas helped establish the computer industry, and Moore’s law helped set the pace for its growth, which has been remarkable. However, historic growth for single-thread performance effectively ended a decade ago. Although parallelism through multcore provides a way forward, it is limited to certain applications and algorithms. Increasingly, the fundamental assumptions underlying modern computing require dramatic rethinking. Computer seeks articles proposing new ideas to “reboot” the computer industry and better position it to continue as a major economic driver.

Submissions should propose new, revolutionary approaches to computing. To the extent possible, authors should propose a range of applications, the architecture of a machine that could execute those applications, and a physical basis for machine performance and power consumption.

Full articles are due 1 June 2015. Visit http://www.computer.org/computer/cfp12 to view the complete call for papers.

Computer plans a March 2016 special issue on communications and privacy under surveillance.

Today, our daily communications are subject to surveillance by government agencies and private hackers. The purpose could be legal crime investigation or terrorism prevention, or it could be illegal privacy infringement or theft of confidential information. There are often gray areas between legal and illegal surveillance.

Despite the controversy, communications surveillance technologies continue to evolve. However, these sensitive technologies have seldom been reported on in the scientific literature, as developers have largely subscribed to the idea of “security by obscurity.” Now, though, many realize that surveillance technologies could be improved much faster via “security by clarity,” with the technologies examined by both good and bad guys. This could also reduce the gray area between legal and illegal activities, thereby protecting privacy.

This special issue will foster dissemination of the latest communications and privacy surveillance methodologies. The guest editors’ aim is to publish high-quality articles presenting the state of the art in lawful, mass, wireless, and backdoor surveillance.

Articles are due 1 August 2015. Visit www.computer.org/computer/cfp3 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, system 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 have shown that flaws in open source and third-party code can have a tremendous impact, including the leakage of sensitive and personal data.

Although awareness in the hardware supply chain has increased in recent years, the scope of the problem continues to grow and evolve. Data
from the Government and Industry Data Exchange Program (GIDEP) and Information Handling Services indicates a sixfold and fourfold increase, respectively, in reported counterfeit components over the last four years. Existing solutions fail to provide adequate protection against supply chain security issues, and many are too intrusive and expensive to be practical for industry use.

This special issue is intended to raise awareness of supply chain issues, highlight new attacks, point out existing solutions, and encourage fresh protection approaches. It will focus on supply chain security as well as comprehensive, cost-effective, and easy-to-use solutions.

We solicit articles on topics related to security in all parts of the hardware and software supply chain. Although articles that focus on specific supply chain 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 IEEE CS PUBLICATIONS

IEEE Intelligent Systems plans a November/December 2015 special issue on pattern recognition.

Pattern recognition methods and applications have advanced tremendously in recent years. For example, deep-learning methods have boosted performance in fields such as handwriting, facial, speech, and sign recognition.

This special issue will discuss the state of the art in pattern recognition theory and applications, particularly new and innovative ideas and methods.

Articles are due 25 May 2015. Visit www.computer.org/intelligent/cfp6 to view the complete call for papers.

IEEE Software plans a January/February 2016 special issue on the future of software engineering.

As our dependence on software
has grown, discussion in our community has increasingly involved immediate and concrete concerns such as affordability, dependability, privacy, and security.

This special issue will address these and other topics important to software engineering’s future. Submissions should focus on the most innovative software practices and tools in use right now and how they’ll evolve.

The guest editors welcome interdisciplinary articles that explore the interplay between software engineering and other areas that have potential to advance our field.

Articles are due 1 June 2015. Visit www.computer.org/software/cfp1 to view the complete call for papers.

IEEE Intelligent Systems plans a January/February 2016 special issue on behavioral analysis.

Developing computational methods to model user behaviors, analyze different behavioral patterns, understand mechanisms underlying behavioral logs, and eventually predict behaviors or detect behavioral anomalies is important. Such research could improve Web search, recommender systems, social networking services, and many other applications as well as help counter fraud, spam, and cyberattacks.

This special issue will address topics relevant to these matters.

Articles are due 1 June 2015. Visit www.computer.org/intelligent/cfp1 to view the complete call for papers.

IEEE Transactions on Emerging Topics in Computing (TETC) plans a special issue on methods and techniques for processing big data streaming in datacenter clouds, tentatively slated for the second issue of 2016.

There have been recent technological advances in data-intensive computing paradigms and datacenter clouds. However, reliable large-scale, system-level software for Internet of Things (IoT) big data applications is still uncommon.

As diverse new IoT applications emerge, there is a need for optimized techniques to process the streaming data they produce across multiple datacenters that combine multiple independent and geographically distributed software and hardware resources.

This special issue will look at ways to address these issues.

Articles are due 1 June 2015. Visit www.computer.org/cms/Computer.org/transactions/cfps/cfp_tetcsi to view the complete call for papers.
IEEE Pervasive Computing plans an April–June 2016 special issue on domestic pervasive computing. Pervasive computing crosses many domains, but perhaps none are as complex or important as the home. Households are full of challenges and opportunities for technologies and applications. These include setup and ease of use, multiple occupants with different needs and expertise, critical privacy and security concerns, and a range of social scenarios and deployment variations.

This special issue aims to explore technologies and applications related to all aspects of pervasive computing pertaining to domestic situations, entailing fields such as ubiquitous computing, ambient intelligence, the Internet of Things, and intelligent environments.

Articles are due 1 July 2015. Visit www.computer.org/pervasive/cfp2 to view the complete call for papers.

IEEE Internet Computing plans a May/June 2016 special issue on cloud storage. Cloud computing has established itself as a key component of the modern computing infrastructure. The initial focus was on virtualizing computing resources, but it has since expanded to networking-resource virtualization via software-defined networking.

Virtualized and software-defined cloud storage, in which storage hardware is decoupled from management software, is the last piece necessary to realize fully virtualized datacenters. However, cloud storage faces technical challenges, including those related to performance, privacy, and security.

This special issue will address these and other issues with articles from both industry and academia.

Brief article descriptions are due 1 August 2015. Articles are due 1 September 2015. Visit www.computer.org/web/computingnow/iccfp3 to view the complete call for papers.

September 2015. Visit www.computer.org/web/computingnow/iccfp3 to view the complete call for papers.

IT Professional plans a March/April 2016 special issue on emerging IT trends in healthcare and well-being.

IT advances are driving and facilitating major transformations in healthcare and personal well-being, which are also being affected by factors such as the push for cost reduction and increased personalization, the increasing volume and variety of medical-related data, and the demand for data sharing and social presence.

IT can revolutionize and improve healthcare access and delivery and help enrich the quality of life by supporting chronic-disease management, elder care, healthy lifestyle campaigns, disease prevention, remote care, telehealth, and rural care.

Articles are due 1 August 2015. Visit www.computer.org/web/computingnow/itcfp2 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 last 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 two of these approaches: 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_tetcsi_asccsa.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 2016.

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 intense 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, based on the same metrics.

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

IEEE Transactions on Emerging Topics in Computing (TETC) plans a special issue on defect and fault tolerance in VLSI and nanotechnology systems, slated for the last issue of 2016.

The scaling of CMOS devices and increased interest in emerging technologies make topics related to defect and fault tolerance in VLSI and nanotechnology systems increasingly important.

This special issue will explore design, manufacturing, test, reliability, and availability issues that are affected by manufacturing defects and system-operation faults.

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

IEEE Transactions on Emerging Topics in Computing (TETC) plans a special issue on new paradigms in ad hoc, sensor, and mesh networks—from theory to practice—slated for the fourth issue of 2016.

Ad hoc, sensor, and mesh networks have attracted significant attention from academia and industry in the past decade.

In recent years, however, new paradigms in these areas have appeared as
a result of the increase in the 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 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.

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

JUNE 2015


JULY 2015


AUGUST 2015

22–25 August: HotChips 2015, HotChips Symp., Cupertino, California; www.hotchips.org


SEPTEMBER 2015
7–9 September: EISIC 2015, European Intelligence and Security Informatics Conf., Manchester, UK; www.eisic.eu


29 September–1 October: ICSME 2015, 31st Int’l Conf. Software Maintenance and Evolution, Bremen, Germany; www.icsme.uni-bremen.de