Computer Highlights Society Magazines

The IEEE Computer Society’s 13 peer-reviewed technical magazines cover cutting-edge computing topics including scientific applications, Internet computing, machine intelligence, pervasive computing, security and privacy, digital graphics, cloud computing, and computer history. Here, we highlight recent issues of other Computer Society magazines.

Software

IEEE Software’s September/October 2016 issue has two theme topics. Articles on the business of software address subjects such as better selection of software providers via trialsourcing, business roles in the emerging open data ecosystem, and offshoring’s hourly cost. Articles on the software engineering process cover various issues including agile software development’s risks, moving from software development to software assembly, choosing software development methodologies, and steering software development workflow.

Internet Computing

According to Internet pioneer Vint Cerf in “On Risk” from IEEE Internet Computing’s July/August 2016 issue, as we move toward the Internet of Things era, loss of security and privacy becomes a greater risk. This will make responsible programming more of a concern. Cerf says it’s only a matter of time until programmers are held accountable for their work’s quality and safety, and he asks how the software industry will plan for this.

Cloud-computing advances are increasingly making data analysis available as a service. This approach accelerates the discovery process by letting researchers focus on scientific discovery, while computational experts provide the enabling services. The science-as-a-service process also reduces research costs, permits rapid hypothesis testing and exploration, makes scientific software sustainable, and lowers entry barriers to large-scale scientific analysis. These matters are explored in CiSE’s September/October 2016 special issue.

“Software-Defined Networks Meet Cloud Computing," which appears in IEEE Cloud Computing’s May/June 2016 issue, reviews the advantages of software-defined networks and looks at their potential for operating in the cloud and providing on-demand, high-quality, less expensive networking capabilities.

Visual text analysis as a way to convert textual data into actionable knowledge has become a popular research topic. In “Topic- and Time-Oriented Visual Text Analysis,” from CG&A’s July/August 2016 issue, the authors present the benefits and challenges of combining text analysis with interactive visualization.
A trend in human–computer interaction is using intelligent systems to make it easier to create apps, games, and other content, letting even nonskilled users define a system’s behavior. “Semantics-Based Intelligent Human–Computer Interaction,” from IEEE Intelligent Systems’ July/August 2016 issue, addresses this approach’s challenges by proposing a framework for automatically configuring a system’s behavior based on user input and contextual information.

People’s abilities change over time, which affects their usage of multimedia computing. In addition, individuals with disabilities have specific requirements that necessitate a person-centered, adaptive approach. To help such users, the authors of “Person-Centered Multimedia Computing: A New Paradigm Inspired by Assistive and Rehabilitative Applications,” from IEEE MultiMedia’s July–September 2016 issue, present their approach.

Lightweight, highly autonomous drones that interact with the world are emerging and will dramatically change consumer electronic technology, in the same way that smartphones revolutionized personal computing, according to “Flying Smartphones: When Portable Computing Sprouts Wings,” from IEEE Pervasive Computing’s July–September 2016 issue.

IEEE Annals’ July–September 2016 issue on network origins and evaluations includes articles on topics such as the restructuring of Internet standards governance between 1987 and 1992; infrastructure, representation, and historiography in BBN’s Arpanet Maps; and two early interactive-network experiments.

“Addressing Pressing Cybersecurity Issues through Collaboration,” which appears in IT Pro’s July/August 2016 issue, discusses this year’s projects of the US National Institute of Standards and Technology’s National Cybersecurity Center of Excellence. The center works with the private sector, academia, and other government organizations to identify pressing cybersecurity problems.

IEEE Micro’s July/August 2016 special issue presents four articles chosen from the 2015 IEEE Symposium on High Performance Interconnects.

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