The IEEE Computer Society offers a lineup of 13 peer-reviewed technical magazines that cover cutting-edge topics in computing, including scientific applications, design and test, security, Internet computing, machine intelligence, digital graphics, and computer history. Select articles from recent issues of IEEE Computer Society magazines are highlighted below.

**Software**

The July/August issue of *IEEE Software* features an article on domain-specific techniques by Jonathan Sprinkle, Marjan Mernik, Juha-Pekka Tolvanen, and Diomidis Spinellis titled “What Kinds of Nails Need a Domain-Specific Hammer?” Domain-specific techniques provide a high-level specification for software systems. The technology’s foundations have been developed over the past few years. However, domain-specific techniques aren’t a panacea, and deciding whether investment in them is merited is an important step in understanding their benefits.

**Computing**

The July/August issue of *Computing in Science & Engineering* focuses on cloud computing as it applies to scientific computing. Rather than offering a status report on its current state and players or a sweeping definition of the term, the special issue closely examines some of the computations this new paradigm enables and the powerful algorithms we can soon expect to see.

**IT Professional**

Especially prescient in today’s corporate climate, the July/August issue of *IT Professional* examines the tradeoffs to be made in enterprise cybersecurity in the face of a falling economy. The articles in this special issue focus on metrics, analyses, and what organizations should look for when considering the cases for and against cybersecurity spending.

**Security & Privacy**

One of the greatest threats that massively multiplayer online games face today is a form of cheating called botting. The authors of “Server-Side Bot Detection in Massively Multiplayer Online Games,” in the latest issue of *IEEE Security & Privacy*, propose an automated approach that detects bots on the server side based on character activity and is completely transparent to end users.

**Computer Graphics**


**Intelligent Systems**

In the past decade, agents and data mining have emerged as two of the most vigorous areas in information technology. The nature and complementarity of both areas foreshadows an emerging trend—the increasing interaction and integration between agents and data mining. A symbiotic relationship could significantly strengthen each side’s progress and trigger new R&D challenges and prospects toward the advancement of next-generation intelligent technologies and systems as well as the enrichment of integrated intelligence and other emergent aspects. See the May/June issue of *IEEE Intelligent Systems* for an in-depth look at agents and data mining.
The May/June issue is part two of the IEEE Design & Test of Computers special issue on the status of IEEE Std 1500. Articles include “Automating IEEE 1500 Core Test—An EDA Perspective,” “Are IEEE-1500-Compliant Cores Really Compliant to the Standard?,” and “Test Data Volume Comparison: Monolithic vs. Modular SoC Testing.”

This issue of Design & Test also features a special section on metamodeling—one survey article addresses metamodeling tools, applications, and projects in Europe; a second survey article considers metamodeling as an emerging representation paradigm for system-level design.

Internet Computing

IT infrastructure is definitely going green. From significant new regulations for IT equipment disposal, to stringent energy-efficiency specifications for PCs and monitors, to national standards for data center power savings, green IT is an “in” topic. But many problems are unsolved. Will telecommuting make a difference or is it too difficult to manage? Will cloud computing reduce the number of large data centers? Can legislation diminish e-waste challenges?

“Green IT—More Than a Three Percent Solution?” an article by Stephen Ruth in the latest issue of IEEE Internet Computing, addresses these questions and many other pressing concerns.

MultiMedia

At the highest level, embedded multicore can be defined as a technology, a methodology, and a business and research opportunity. Building a multicore-enabled embedded system requires system developers to interweave a combination of these factors. Furthermore, unlike desktop PC or server applications, multicore devices used in embedded systems are spectacularly diverse. There are many potential approaches to solving the numerous multicore-related issues. The articles in this special issue of IEEE MultiMedia on embedded multicore processors and systems address a small cross-section of these issues.

Through-walls collaboration lets users in the field work in real time with users indoors who have access to reference materials, a global picture, and advanced technology. The concept leverages ubiquitous workspaces, augmented reality, and wearable computers. See the latest issue of IEEE Pervasive Computing for an in-depth look at through-walls collaboration.

Annals of the History of Computing

A historiographical trend in technology is to concentrate heavily on progress, without giving due attention to the technological failures that can also be quite illuminating. While documenting and analyzing successes is important, neglecting failures runs the risk of providing a distorted picture of the past and, in many cases, losing opportunities to learn. The April-June 2009 issue of IEEE Annals of the History of Computing explores a variety of business application case studies, insightfully examining industry successes (such as IBM La Gaude’s contributions to telecommunications), failures, and examples that blur the lines between such limiting definitions.

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July Theme: PROFESSIONAL ETHICS

Computing professionals deal with ethical challenges daily, and their responses to these challenges have ramifications that go beyond personal responsibility. Learn about professional ethics this month on Computing Now.