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
25th-ANNIVERSARY ISSUE
Time and experience help us see more clearly. To celebrate IEEE Software’s 25 years of publication, the magazine’s editorial and advisory boards undertook a rigorous review process of its library of more than 1,200 peer-reviewed articles. They chose 35 that stand out from the crowd. “IEEE Software’s 25th-Anniversary Top Picks” offers the reader a compact list of highly recommended pieces. This is accompanied by a short study of the most-cited IEEE Software articles. Software’s anniversary content also includes Rebecca Wirfs-Brock’s thoughts on future design trends and a summary of the experimental work done in the past 25 years on software testing techniques and strategies.

Software’s January/February issue also contains six strong articles on the new field of mining software archives and three articles that complete a round of coverage on the development of scientific software.

FPGA-BASED COMPUTING
CISE’s January/February issue features an article titled “Janus: An FPGA-Based System for High-Performance Scientific Computing.”

Janus is a modular, massively parallel, and reconfigurable FPGA-based computing system. Each Janus module has one computational core and one host. Janus is tailored to, but not limited to, the needs of a class of hard scientific applications characterized by regular code structure, unconventional data-manipulation requirements, and a few megabits database.

The authors discuss this configurable system’s architecture and focus on its use for Monte Carlo simulations of statistical mechanics, as Janus performs impressively on this class of application.

IT AUTOMATION AND THE FINANCIAL CRISIS
The January/February issue of IT Pro features a Perspectives piece by George F. Hurlburt, Keith W. Miller, and Jeffrey M. Voas about the role IT automation played in the recent US financial market meltdown. “An Ethical Analysis of Automation, Risk, and the Financial Crises of 2008” describes how latent semantic analysis can help determine just how pervasive the underlying problem of automation was in this particular instance.

ANDROID SECURITY
Google’s new Android platform promises to connect all sorts of Google services, but this widely anticipated open source operating system for mobile phones has a few security flaws that are easy to overcome if you know where to look. In "Understanding Android Security," an article in the January/February issue of S&P, William Enck, Machigar Ongtang, and Patrick McDaniel describe Android’s security model and attempt to unmask its complexity.

VR AND EDUCATION

Immersive virtual reality has attracted the attention
of many researchers and educators who predicted that VR would considerably affect how learning and teaching are conducted. The research presented in this article investigated how an interactive immersive virtual learning environment affected conceptual learning—specifically, the learning of fractions in mathematics. A virtual environment designed to simulate a playground was created and evaluated through empirical studies with 60 primary school students between the ages of 8 and 12.

Results suggest that children who fully interacted with the VE could problem-solve but that there was no strong evidence of the expected conceptual change. Rather, it was the passive VR environment, where a virtual robot guided activity, that seemed to support student reflection and recall, leading to indications of sustained conceptual change.

**Intelligent Systems**

**ARTIFICIAL INTELLIGENCE IN CHINA; AI AND DNA SEQUENCING**

The November/December 2008 issue of *IS* focuses on the theme of artificial intelligence in China, with reports on the latest Chinese AI research. The issue also includes an article titled “AI and the Language of Life,” which describes using AI to map and create proteins. Written by Mark Ingebretsen, the news story considers research aimed at untangling the syntax of protein molecules to understand the genetic coding contained within DNA sequences.

**micro**

**EXISTENTIAL ARCHITECTURES**

The November/December 2008 issue of *Micro* features articles that address important topics related to existential architectures. The concept for this issue, “Existential Architecture—The Metaphysics of Computer Design,” is meant to showcase outside-the-box topics that tend not to make it into the usual forums for the simple reason that people are not quite sure what the rules are for reviewing unorthodox ideas. Also in this issue, Shane Greenstein gives his “Chicken Little Predictions,” a commentary on the year ahead in microeconomics.

**MultiMedia**

**ASSISTIVE TECHNOLOGIES; INFORMATION ACCESSIBILITY**

The October-December 2008 issue of *MM* features articles that address important topics related to assistive technologies and the accessibility of information. The articles discuss accessibility standards, efforts to teach science and mathematics to deaf and hearing students, a new entry method on mobile phone and touch screens for vision-impaired persons, how the Web Content Accessibility Guidelines can be employed to provide accessible multimedia content on the Web, and two efforts to use speech recognition for providing real-time text transcriptions in multispeaker situations.

Guest editors Wayne Dick and Forouzan Golshani provide some context and insight to the problems inherent in accessibility.