DEPARTMENT: CERF'S UP

Self-Authenticating Identifiers

The peculiar property that makes public key cryptography interesting is that you must use one key to encrypt and the other to decrypt.

Vinton G. Cerf

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DEPARTMENT: LETTERS

TO THE EDITOR

Reclaim Internet Greatness

Vinton G. Cerf's "The Internet in the 21st Century" (Sept. 2018) highlighted many challenges facing today's Internet. The fundamental issue becomes what changes are warranted and who will be responsible for defining and administering …

CACM Staff

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DEPARTMENT: BLOG@CACM

Securing Agent 111, and the Job of Software Architect

John Arquilla describes the new state of cyberspying, while Yegor Bugayenko considers the importance of a software architect to development projects.

John Arquilla, Yegor Bugayenko

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COLUMN: NEWS

Learning to See

Machine learning turns the spotlight on elusive viruses.

Chris Edwards

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Technology for the Deaf

Why aren't better assistive technologies available for those communicating using ASL?

Keith Kirkpatrick

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AI Judges and Juries

Artificial intelligence is changing the legal industry.

Logan Kugler

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COLUMN: THE PROFESSION OF IT

Learning Machine Learning

A discussion of the rapidly evolving realm of machine learning.

Ted G. Lewis, Peter J. Denning

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COLUMN: KODE VICIOUS

A Chance Gardener

Harvesting open source products and planting the next crop.

George V. Neville-Neil

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COLUMN: POINT/COUNTERPOINT

Point: Should AI Technology Be Regulated?: Yes, and Here's How

Considering the difficult technical and sociological issues affecting the regulation of artificial intelligence research and applications.

Oren Etzioni

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Counterpoint: Regulators Should Allow the Greatest Space for AI Innovation

Permissionless innovation should be the governing policy for AI technologies.

Andrea O'Sullivan, Adam Thierer

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COLUMN: VIEWPOINT

Opportunities and Challenges in Search Interaction

Seeking to address a wider range of user requests toward task completion.

Ryen W. White

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SECTION: PRACTICE

How to Live in a Post-Meltdown and -Spectre World

Learn from the past to prepare for the next battle.

Rich Bennett, Craig Callahan, Stacy Jones, Matt Levine, Merrill Miller, Andy Ozment

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Why SRE Documents Matter

How documentation enables SRE teams to manage new and existing services.

Shylaja Nukala, Vivek Rau

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How to Get Things Done When You Don't Feel Like It

Five strategies for pushing through.

Kate Matsudaira

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SECTION: CONTRIBUTED

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What Motivates a Citizen to Take the Initiative in e-Participation?: The Case of a South Korean Parliamentary Hearing

Citizen-led initiatives via social media yield political influence, including even with a country's top political leaders.

Junyeong Lee, Jaylyn Jeonghyun Oh

Pages 56-61

Uncertainty in Current and Future Health Wearables

Expect inherent uncertainties in health-wearables data to complicate future decision making concerning user health.

Bran Knowles, Alison Smith-Renner, Forough Poursabzi-Sangdeh, Di Lu, Halimat Alabi

Pages 62-67

A Century-Long Commitment to Assessing Artificial Intelligence and Its Impact on Society

A series of reports promises the general public a technologically accurate view of the state of AI and its societal implications.

Barbara J. Grosz, Peter Stone

Pages 68-73

SECTION: REVIEW

ARTICLES

Designing Emotionally Sentient Agents

Emotionally sentient systems will enable computers to perform complex tasks more effectively, making better decisions and offering more productive services.

Daniel McDuff, Mary Czerwinski

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Search-based Program Synthesis

A promising, useful tool for future programming development environments.

Rajeev Alur, Rishabh Singh, Dana Fisman, Armando Solar-Lezama

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SECTION: RESEARCH

HIGHLIGHTS

Technical Perspective: Node Replication Divides to Conquer

In "How to Implement Any Concurrent Data Structure," Calciu et al. show that a concurrent data structure can be built automatically and that its performance is actually competitive with state-of-the-art designs for a series of …

Tim Harris

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How to Implement Any Concurrent Data Structure

We propose a method called Node Replication (NR) to implement any concurrent data structure.

Irina Calciu, Siddhartha Sen, Mahesh Balakrishnan, Marcos K. Aguilera

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Technical Perspective: WebAssembly: A Quiet Revolution of the Web

"Bringing the Web Up to Speed with WebAssembly," by Rossberg *et al.*, gives an overview of the initial design of WebAssembly, a new low-level programming language for Web-based software.

Anders Møller

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Bringing the Web Up to Speed with WebAssembly

WebAssembly is the first mainstream language designed from the start with a formal semantics. It not only demonstrates the feasibility of applying formal techniques, but also that they lead to a remarkably clean and simple design …

Andreas Rossberg, Ben L. Titzer, Andreas Haas, Derek L. Schuff, Dan Gohman, Luke Wagner, Alon Zakai, J. F. Bastien, Michael Holman

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COLUMN: LAST BYTE

Promoting Common Sense, Reality, Dependable Engineering

Peter G. Neumann traces a lifetime devoted to identifying computing risks.

Leah Hoffmann

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