

DEPARTMENT: FROM THE CHAIR OF ACM-W

Achieving Gender Equity: ACM-W Can't Do It Alone

Why, with so much sustained effort by so many individuals and organizations, is progress toward gender equity so slow?

Jodi L. Tims

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DEPARTMENT:

CERF'S UP

A Comprehensive Self-Driving Car Test

Every few years, I have to pass a test from the Department of Motor Vehicles to drive my car. Shouldn't a self-driving car be required to do the same thing?

Vinton G. Cerf

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DEPARTMENT:

LETTERS TO THE EDITOR

Toward an Equation that Anticipates AI Risks

CACM Staff

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DEPARTMENT:

BLOG@CACM

Protecting the Power Grid, and Finding Bias in Student Evaluations

The Communications Web site, <http://cacm.acm.org>, features more than a dozen bloggers in the BLOG@CACM community. In each issue of Communications, we'll publish selected posts or excerpts. Follow us on Twitter at <http://...>

John Arquilla, Mark Guzdial

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COLUMN: NEWS

Quantum Technology Forgoes Unconditional Security to Extend its Reach

Two projects in China demonstrate the possibility of global quantum key distribution networks.

Chris Edwards

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Going Serverless

Serverless computing lets businesses and application developers focus on the program they need to run, without worrying about the machine on which it runs, or the resources it requires.

Neil Savage

Pages 15-16

The War Over the

Value of Personal Data

In a world increasingly dependent on turning personal data into profits, it is unclear how much that data is actually worth.

Logan Kugler

Pages 17-19

COLUMN: INSIDE

RISKS

Risks of Trusting the Physics of Sensors

Protecting the Internet of Things with embedded security.

Kevin Fu, Wenyan Xu
Pages 20-23

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EDUCATION

The Inclusive and Accessible Workplace

Maximizing the performance of neurodiverse talent.

Sarah Wille, Daphne Sajous-Brady

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VICIOUS

Reducing the Attack Surface

Sometimes you can give the monkey a less-dangerous club.

George V. Neville-Neil

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COLUMN:

VIEWPOINT

Teaching Artificial Intelligence and Humanity

Considering rapidly evolving human-machine interactions.

Jennifer Keating, Illah Nourbakhsh

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Innovation
from the

Edges

How innovation originates from market participants with multiple perspectives about commercial value.

Shane Greenstein

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SECTION:

PRACTICE

Titus: Introducing Containers to the Netflix Cloud

Approaching container adoption in an already cloud-native infrastructure.

Andrew Leung, Andrew Spyker, Tim Bozarth

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Research
For

Practice: Private Online Communication; Highlights in Systems Verification

Expert-curated guides to the best of CS research.

Albert Kwon, James R. Wilcox, Peter Bailis

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Views from
the Top

Try to see things from a manager's perspective.

Kate Matsudaira

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SECTION:

CONTRIBUTED ARTICLES

The Next Phase in the Digital Revolution: Intelligent Tools, Platforms, Growth, Employment

Digital technology determines how (and even whether) people work as much as it determines how information produces economic activity.

John Zysman, Martin Kenney

Pages 54-63

A Large-Scale

Comparative Study of Beta Testers and Regular Users

Beta testers should represent a future product's target users as much as possible.

Vlasta Stavova, Lenka Dedkova, Martin Ukrop, Vashek Matyas

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SECTION:

REVIEW ARTICLES

Elements of the Theory of Dynamic Networks

The challenge of computing in a highly dynamic environment.

Othon Michail, Paul G. Spirakis

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SECTION:

RESEARCH HIGHLIGHTS

Technical Perspective: Building Bug-Free Compilers

What to do about buggy compilers? The authors of "Practical Verification of Peephole Optimizations with Alive" give us a compelling and practical answer.

Steve Zdancewic

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Practical Verification

of Peephole Optimizations with Alive

We created Alive, a domain-specific language for writing correct peephole optimizations and for automatically either proving them correct or else generating counterexamples.

Nuno P. Lopes, David Menendez, Santosh Nagarakatte, John Regehr

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Technical

Perspective: Designing Algorithms and the Fairness Criteria They Should Satisfy

"Which Is the Fairest (Rent Division) of Them All?" focuses on the problem of rent division, and stands out in the variety of techniques applied to arrive at a solution.

Vincent Conitzer

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Which Is the Fairest

(Rent Division) of Them All?

What is a fair way to assign rooms to several housemates, and divide the rent between them? We develop a general algorithmic framework that enables the computation of solutions in polynomial time that optimize a criterion of ...

Kobi Gal, Ariel D. Procaccia, Moshe Mash, Yair Zick

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COLUMN: LAST BYTE

Welcome to the Singularity

Who can say no to the hive mind's promise of cybernetic immortality, for free?

David Allen Batchelor

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