

DEPARTMENT: DEPARTMENT: EDITOR'S LETTER

Go BIG!

Large-scale funding enables examination of larger questions that cross problem spaces, systems, abstractions, even fields. I believe the need for large investments has never been greater.

Andrew A. Chien

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The Sound of Programming

Bootstrap World has developed online courses in programming, among other subjects, but what makes Bootstrap World so memorable for me is that the team has focused heavily on accessibility.

Vinton G. Cerf

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DEPARTMENT:

DEPARTMENTS

Open Access and ACM

ACM is under significant pressure to move from a subscription-based to an open access publishing model. Such a transition is exceedingly challenging and would threaten ACM's financial viability, a risk that must be taken seriously ...

Moshe Y. Vardi

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DEPARTMENT: LETTERS

TO THE EDITOR

Predicting Failure of the University

Henry C. Lucas, Jr.'s Viewpoint "Technology and the Failure of the University" (Jan. 2018) was a tour de force of unfounded assertions.

CACM Staff

Pages 8-9

DEPARTMENT: BLOG@CACM

Fostering Inclusion, Keeping the Net Neutral

ACM-W chair Jodi Tims offers ways everyone can promote inclusiveness, while Daniel A. Reed assesses the debate over Net neutrality.

Jodi Tims, Daniel A. Reed

Pages 10-11

COLUMN: NEWS

Always Out of Balance

Computational theorists prove there is no easy algorithm to find Nash equilibria, so game theory will have to look in new directions.

Neil Savage

Pages 12-14

Chips for Artificial Intelligence

Companies are racing to develop hardware that more directly empowers deep learning.

Don Monroe

Pages 15-17

Artificial (Emotional)

Intelligence

Enabled by advances in computing power and neural networks, machines are getting better at recognizing and dealing with human emotions.

Marina Krakovsky

Pages 18-19

COLUMN: TECHNOLOGY

STRATEGY AND MANAGEMENT

Business Ecosystems: How Do They Matter for Innovation?

Considering the significant interrelationship of innovation, corporate strategy, and public policy for business ecosystems.

Mari Sako

Pages 20-22

COLUMN: KODE VICIOUS

Popping Kernels

Choosing between programming in the kernel or in user space.

George V. Neville-Neil

Pages 23-24

COLUMN: VIEWPOINT

Push Versus Pull

Flipping the publishing business model.

Sheldon H. Jacobson

Pages 25-27

**Smartphones,
Contents of the**

Mind, and the Fifth Amendment

Exploring the connection qualities between smartphones and their users.

Stephen B. Wicker

Pages 28-31

SECTION: PRACTICE

DevOps Delivers

The DevOps methodology has come of age in the past several years, and organizations are adopting key DevOps practices to transform their software practices.

Nicole Forsgren

Pages 32-33

**Continuous
Delivery Sounds**

Great, but Will It Work Here?

It's not magic, it just requires continuous, daily improvement at all levels.

Jez Humble

Pages 34-39

**Containers Will
Not Fix Your**

Broken Culture (and Other Hard Truths)

Complex socio-technical systems are hard; film at 11.

Bridget Kromhout

Pages 40-43

DevOps Metrics

Your biggest mistake might be collecting the wrong data.

ARTICLES

Building a Smart City: Lessons from Barcelona

Smart Internet-based infrastructure is one thing but will be ignored without the public's continuing engagement.

Mila Gascó-Hernandez

Pages 50-57

Lessons from Building Static

Analysis Tools at Google

For a static analysis project to succeed, developers must feel they benefit from and enjoy using it.

Caitlin Sadowski, Edward Aftandilian, Alex Eagle, Liam Miller-Cushon, Ciera Jaspán

Pages 58-66

Realizing the Potential of Data

Science

Data science promises new insights, helping transform information into knowledge that can drive science and industry.

Francine Berman, Rob Rutenbar, Brent Hailpern, Henrik Christensen, Susan Davidson, Deborah Estrin, Michael Franklin, Margaret Martonosi, Padma Raghavan, Victoria Stodden, Alexander S. Szalay

Pages 67-72

ARTICLES

Bridgeware: The Air-Gap Malware

The challenge of combatting malware designed to breach air-gap isolation in order to leak data.

Mordechai Guri, Yuval Elovici

Pages 74-82

HIGHLIGHTS

Technical Perspective: Expressive Probabilistic Models and Scalable Method of Moments

The authors of "Learning Topic Models—Provably and Efficiently," developed a new method for fitting topic models and at large scale.

David M. Blei

Page 84

Learning Topic Models – Provably

and Efficiently

This article shows that some new theoretical algorithms that have provable guarantees can be adapted to yield highly practical tools for topic modeling.

Sanjeev Arora, Rong Ge, Yoni Halpern, David Mimno, Ankur Moitra, David Sontag, Yichen Wu, Michael Zhu

Pages 85-93

Finding October

Two teams, blue and red, play a game in which Red has a submarine we call October, as in Tom Clancy's novel *The Hunt for Red October*.

