

DEPARTMENT: EDITOR'S LETTER

## Cracks in Open Collaboration in Universities

Universities and the interchange of scholars and students in international collaborations have long played an important role in knitting a fabric of human relationships and shared understanding. This fabric is fraying rapidly ...

*Andrew A. Chien*

Page 5

DEPARTMENT:

DEPARTMENTS

## Publish *and* Perish

Publishing one's paper at a prestigious conference has become the standard way to build professional credentials, yet the dominance of conference publication comes at a cost.

*Moshe Y. Vardi*

Page 7

DEPARTMENT: BLOG@CACM

## In Search of the Shortest Possible Schedule

Bertrand Meyer considers how to speed up software engineering.

*Bertrand Meyer*

Pages 8-9

COLUMN: NEWS

## Multiplication Hits the Speed Limit

A problem "around since antiquity" may have been resolved by a new algorithm.

*Erica Klarreich*

Pages 11-13

## How the Internet Spans the Globe

The modern Internet is made possible by hundreds of thousands of miles of undersea cables.

*Logan Kugler*

Pages 14-16

## Will Deepfakes Do Deep Damage?

The ability to produce fake videos that appear amazingly real is here. Researchers are now developing ways to detect and prevent them.

*Samuel Greengard*

Pages 17-19

COLUMN: LAW AND

TECHNOLOGY

## Increasing Automation in Policing

Seeking the delicate balance between civil liberties and policing public safety.

*Elizabeth E. Joh*

Pages 20-22

COLUMN: TECHNOLOGY

STRATEGY AND MANAGEMENT

## 'Platformizing' a Bad Business Does Not Make It a Good Business

Transaction platforms link third-party applications and services providers with users.

*Michael A. Cusumano*

Pages 23-25

COLUMN: HISTORICAL REFLECTIONS

## Von Neumann Thought Turing's Universal Machine was 'Simple and Neat.': But That Didn't Tell Him How to Design a Computer

New discoveries answer an old question.

*Thomas Haigh, Mark Priestley*

Pages 26-32

COLUMN: VIEWPOINT

## Ethics of Technology Needs More Political Philosophy

Incorporating considerations of reasonable pluralism, individual agency, and legitimate authority.

*Johannes Himmelreich*

Pages 33-35

## A\* Search: What's in a Name?

A search for algorithmic answers returns unique results.

*James W. Davis, Jeff Hachtel*

Pages 36-37

SECTION: PRACTICE

## The Reliability of Enterprise Applications

Understanding enterprise reliability.

*Sanjay Sha*

Pages 38-45

## Blockchain Technology: What

## Is It Good For?

Industry's dreams and fears for this new technology.

*Scott Ruoti, Ben Kaiser, Arkady Yerukhimovich, Jeremy Clark, Robert Cunningham*

Pages 46-53

## Space Time Discontinuum

Combining data from many sources may cause painful delays.

*Pat Helland*

Pages 54-56

SECTION: CONTRIBUTED

ARTICLES

## Dependability in Edge Computing

Edge computing holds great promise, and almost as many challenges in deployment.

*Saurabh Bagchi, Muhammad-Bilal Siddiqui, Paul Wood, Heng Zhang*

Pages 58-66

SECTION: REVIEW ARTICLES

## Techniques for Interpretable Machine Learning

Uncovering the mysterious ways machine learning models make decisions.

*Mengnan Du, Ninghao Liu, Xia Hu*

Pages 68-77

## Mastering Concurrent

## Computing through Sequential Thinking

A 50-year history of concurrency.

HIGHLIGHTS

## Technical Perspective: Is There a Geek Gene?

"Evidence that Computer Science Grades Are Not Bimodal" uses empirical methods to determine if belief in innate differences may explain why CS teachers see a bimodality in grades.

*Mark Guzdial*  
Page 90

## Evidence That Computer Science

### Grades Are Not Bimodal

There is a common belief that grades in computer science courses are bimodal. We devised a psychology experiment to understand why CS educators hold this belief.

*Elizabeth Patitsas, Jesse Berlin, Michelle Craig, Steve Easterbrook*  
Pages 91-98

### Feedback for Foxes

Searching for the best strategy for shifty maneuvers.

*Dennis Shasha*  
Pages 104-ff