

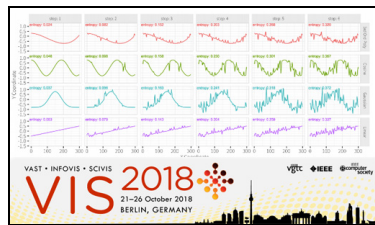


COMPUTER SCIENCE<sup>(/)</sup>



COLUMBIA | ENGINEERING  
The Fu Foundation School of Engineering and Applied Science  
(<http://engineering.columbia.edu/>)

## Software Systems



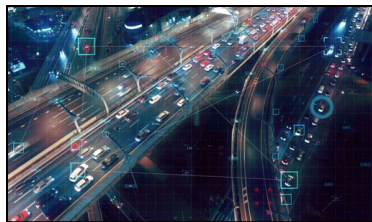
**New Data Science Method Makes  
Charts Easier to Read at a  
Glance**

(<https://www.cs.columbia.edu/2018/new-data-science-method-makes-charts-easier-to-read-at-a-glance/?redirect=9a19cb21d2989300e4eabf8951bbfefb>)



**The WuLab Presents Work at  
SIGMOD/PODS 2019**

(<https://www.cs.columbia.edu/2019/the-wulab-presents-work-at-sigmod-pods-2019/?redirect=611c8804d76e1e5192bd9cb39c446c2b>)



(<https://www.cs.columbia.edu/2019/deepxplore-automated-whitebox-testing-of-deep-learning-systems/?redirect=212efd27bdcf545664f9a4ec7e795ef1>)

## DeepXplore: Automated Whitebox Testing of Deep Learning Systems

### About

The Software Systems group pursues fundamental research in all aspects of the design, implementation, analysis, verification, and evaluation of software systems.

The group conducts research with systems at all scales, from handheld devices to cloud computing data centers. They take an experimental systems approach in building real systems to investigate new research ideas, create tools to enable developers to quickly and correctly build complex systems, and teach students how to do it.

### Faculty and Affiliates



(<https://www.cs.columbia.edu/~pbl>)  
**Paul Blaer**  
(<https://www.cs.columbia.edu/~pbl>)



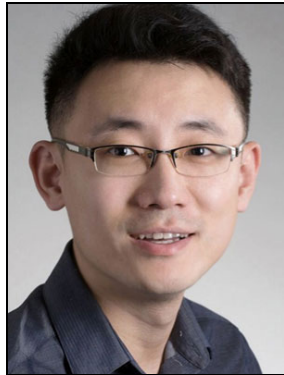
(<http://www.cs.columbia.edu/~luca>)  
**Luca Carloni**  
(<http://www.cs.columbia.edu/~luca>)



(<http://www.cs.columbia.edu/~roxana>)  
**Roxana Geambasu**  
(<http://www.cs.columbia.edu/~roxana>)



(<http://www.cs.columbia.edu/~gravano>)  
**Luis Gravano**  
(<http://www.cs.columbia.edu/~gravano>)



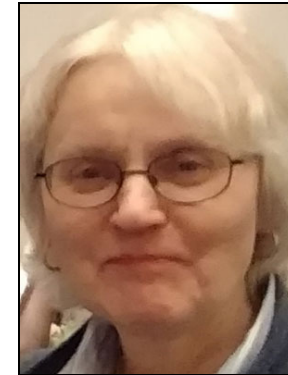
(<http://guronghui.com>)  
**Ronghui Gu**  
 (<http://guronghui.com>)



(<http://sumanj.info>)  
**Suman Jana**  
 (<http://sumanj.info>)



()  
**Kostis Kaffes ()**



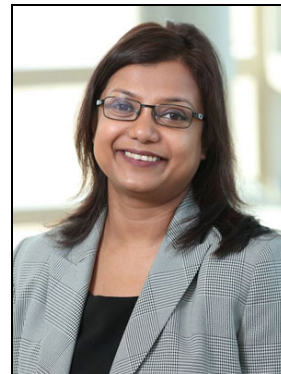
(<http://www.cs.columbia.edu/~kaiser>)  
**Gail Kaiser**  
 (<http://www.cs.columbia.edu/~kaiser>)



(<http://www.cs.columbia.edu/~martha/>)  
**Martha Kim**  
 (<http://www.cs.columbia.edu/~martha/>)



(<http://www.cs.columbia.edu/~nieh/>)  
**Jason Nieh**  
 (<http://www.cs.columbia.edu/~nieh/>)



(<http://rayb.info>)  
**Baishakhi Ray**  
 (<http://rayb.info>)

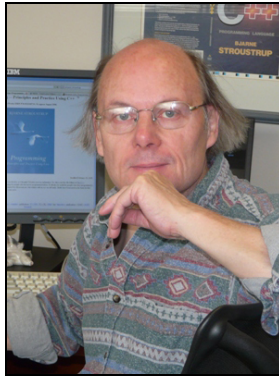


(<http://www.cs.columbia.edu/~kar/>)  
**Kenneth Ross**  
 (<http://www.cs.columbia.edu/~kar/>)



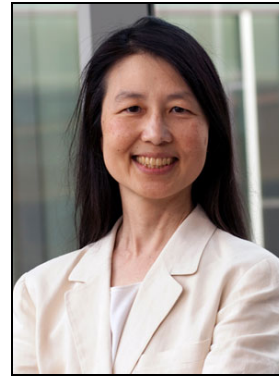
(<http://www.cs.columbia.edu/~danr/>)

**Dan Rubenstein**  
(<http://www.cs.columbia.edu/~danr/>)



(<http://www.stroustrup.com/>)

**Bjarne Stroustrup**  
(<http://www.stroustrup.com/>)



(<https://www.cs.columbia.edu/~wing/>)

**Jeannette Wing**  
(<https://www.cs.columbia.edu/~wing/>)



(<http://www.eugenewu.net>)

**Eugene Wu**  
(<http://www.eugenewu.net>)



(<http://www.cs.columbia.edu/~junfeng>)

**Junfeng Yang**  
(<http://www.cs.columbia.edu/~junfeng>)





(<http://www.asafcidon.com>)

**Asaf Cidon**

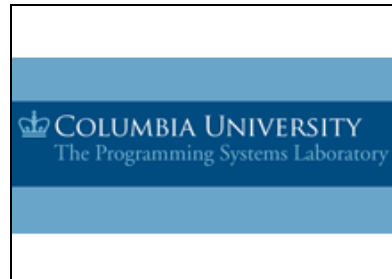
(<http://www.asafcidon.com>)

## Research Labs



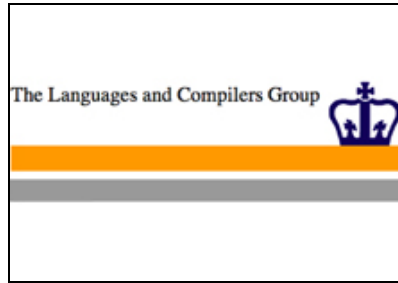
Software Systems  
Laboratory

(<http://systems.cs.columbia.edu/>)



Programming Systems  
Laboratory

(<http://psl.cs.columbia.edu/>)



Languages and Compilers  
Group

(<http://landc.cs.columbia.edu>)



Database Research  
Group

(<http://www.cs.columbia.edu/database/>)

**Find the COVID-19 Resource Guide here (<https://news.columbia.edu/news/update-covid-19-university-guidance>).**

## Computer Science at Columbia University

The computer science department advances the role of computing in our lives through research and prepares the next generation of computer scientists with its academic programs.

Find out more about the department here ([/about](#)).

## Upcoming Events

SEP  
**26**

CSB 480

Theory Student Seminar

**Tuesday 12:30 pm**

SEP  
**29**

**Friday 12:30 pm**

CS conference room (CSB453)

Peter Manohar, Carnegie Mellon University

Semirandom CSP refutation via Kikuchi matrices: Algorithms, Certificates, and Connections

Theory Lunch

OCT  
**03**

CSB 480

Theory Student Seminar

**Tuesday 12:40 pm**

OCT  
**06**

**Friday 12:30 pm**

CS conference room (CSB453)

Sunoo Park, New York University

Theory Lunch - Sunoo Park

Theory Lunch

[View All >> \(https://www.cs.columbia.edu/calendar/\)](https://www.cs.columbia.edu/calendar/)

## In the News

# MIT Technology Review

(<https://www.cs.columbia.edu/2023/the-computer-scientist-who-hunts-for-costly-bugs-in-crypto-code/?redirect=0c99d322ac4a621f0cb1bf31ffea64ba>)

**The Computer Scientist Who Hunts for Costly Bugs in Crypto Code** (<https://www.cs.columbia.edu/2023/the-computer-scientist-who-hunts-for-costly-bugs-in-crypto-code/?redirect=0c99d322ac4a621f0cb1bf31ffea64ba>)

(Ronghui Gu)



(<https://www.cs.columbia.edu/2022/this-self-aware-robot-taught-itself-how-to-control-its-own-body/?redirect=2275dd724f7cd014090b808bf9f6c3c9>)

**This Self-Aware Robot Taught Itself How to Control Its Own Body** (<https://www.cs.columbia.edu/2022/this-self-aware-robot-taught-itself-how-to-control-its-own-body/?redirect=2275dd724f7cd014090b808bf9f6c3c9>)

(Carl Vondrick)





**Columbia Awarded \$185 Million in Patent-Infringement Lawsuit** (<https://www.cs.columbia.edu/2022/columbia-awarded-185-million-in-patent-infringement-lawsuit/?redirect=00ff51e39830d7b7a1521ed64b5174b7>)

(Salvatore Stolfo)

(<https://www.cs.columbia.edu/2022/columbia-awarded-185-million-in-patent-infringement-lawsuit/?redirect=00ff51e39830d7b7a1521ed64b5174b7>)



**Mathematicians Transcend Geometric Theory of Motion** (<https://www.cs.columbia.edu/2021/mathematicians-transcend-geometric-theory-of-motion/?redirect=5673fa940ca6c0bede69f18e4810731e>)

(Andrew Blumberg)

(<https://www.cs.columbia.edu/2021/mathematicians-transcend-geometric-theory-of-motion/?redirect=5673fa940ca6c0bede69f18e4810731e>)



**Auto-scans of phones would violate data privacy, say security experts** (<https://www.cs.columbia.edu/2021/auto-scans-of-phones-would-violate-data-privacy-say-security-experts/?redirect=2ed01b3c9d786fd4c2557ead92be01b1>)

(Steven Bellovin)

(<https://www.cs.columbia.edu/2021/auto-scans-of-phones-would-violate-data-privacy-say-security-experts/?redirect=2ed01b3c9d786fd4c2557ead92be01b1>)

## Press Mentions

The logo for the magazine TIME, rendered in a large, red, serif font.

**How The Morning Show Rewrites the Notorious 2014 Sony Hack** (<https://www.cs.columbia.edu/2023/how-the-morning-show-rewrites-the-notorious-2014-sony-hack/?redirect=01cb778274fb38a72826afd84056ab79>)  
(Suman Jana)

(<https://www.cs.columbia.edu/2023/how-the-morning-show-rewrites-the-notorious-2014-sony-hack/?redirect=01cb778274fb38a72826afd84056ab79>)

The logo for The Washington Post, featuring the words "The Washington Post" in a black, serif font, with "The" and "Post" in a larger, more ornate script.

**Your Résumé Isn't the Only Thing Popular Job Sites Evaluate** (<https://www.cs.columbia.edu/2023/your-resume-isnt-the-only-thing-popular-job-sites-evaluate/?redirect=f25fb139a595563c5d6b2ebf335c354a>)

(<https://www.cs.columbia.edu/2023/your-resume-isnt-the-only-thing-popular-job-sites-evaluate/?redirect=f25fb139a595563c5d6b2ebf335c354a>)

The logo for SCIENTIFIC AMERICAN, featuring the words "SCIENTIFIC AMERICAN" in a large, black, serif font.

**Yes, AI Models Can Get Worse over Time** (<https://www.cs.columbia.edu/2023/yes-ai-models-can-get-worse-over-time/?redirect=bd00821a18c6554527db1cab787c273b>)  
(Kathleen McKeown, Vishal Misra)

(<https://www.cs.columbia.edu/2023/yes-ai-models-can-get-worse-over-time/?redirect=bd00821a18c6554527db1cab787c273b>)



**Here's how AI is being used to unlock secrets still hidden in the human brain** (<https://www.cs.columbia.edu/2023/heres-how-ai-is-being-used-to-unlock-secrets-still-hidden-in-the-human-brain/?...>)

(Richard Zemel)

(<https://www.cs.columbia.edu/2023/heres-how-ai-is-being-used-to-unlock-secrets-still-hidden-in-the-human-brain/?redirect=4055e95b510974e140a3552097549bb7>)



**Does AI in NYC need restrictions? Officials hold closed-door meeting to discuss** (<https://www.cs.columbia.edu/2023/does-ai-in-nyc-need-restrictions-officials-hold-closed-door-meeting-to-discuss...>)

([https://www.cs.columbia.edu/2023/does-ai-in-nyc-need-restrictions-officials-hold-closed-door-meeting-to-discuss/?CS@CU MS Bridge Program in Computer Science](https://www.cs.columbia.edu/2023/does-ai-in-nyc-need-restrictions-officials-hold-closed-door-meeting-to-discuss/?CS@CU%20MS%20Bridge%20Program%20in%20Computer%20Science)) (<https://www.columbia.edu/>)

(<https://www.columbia.edu/>)

## Links

Map ([https://www.cs.columbia.edu/wp-content/uploads/2022/07/morningsidemap\\_2015aug-7.pdf](https://www.cs.columbia.edu/wp-content/uploads/2022/07/morningsidemap_2015aug-7.pdf))

School of Engineering And Applied Science (<http://engineering.columbia.edu/>)

Data Science Institute (<http://datascience.columbia.edu/>)

CRF (<http://www.cs.columbia.edu/crf>)

MICE (<https://mice.cs.columbia.edu>)

ASCENT Program (<https://www.cs.columbia.edu/ascent/>)

Copyright FAQ (<https://www.cs.columbia.edu/resources/copyright/>)

CS Advising (<https://www.cs.columbia.edu/academic-advising/>)

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Directions (<https://www.cs.columbia.edu/resources/directions/>)

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Webmaster (<mailto:webmaster@cs.columbia.edu>)

Privacy Policy (<https://www.cs.columbia.edu/privacy-policy/>)