



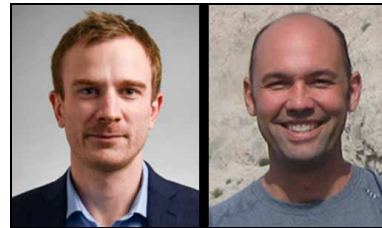
Computational Biology



Machine learning applied to cancer: A PhD student doubles the number of breast cancer drivers

Felix Sanchez-Garcia, a computer science PhD student, describes a new algorithm that integrates data from multiple diverse sources to discover new breast cancer drivers.

(<https://www.cs.columbia.edu/2015/machine-learning-applied-to-cancer/>)



Tim Roughgarden And David Knowles Join The Department

(<https://www.cs.columbia.edu/2019/tim-roughgarden-and->



How Can We Keep Genetic Data Safe?

david-knowles-join-the-department/
(<https://www.cs.columbia.edu/2018/how-can-we-keep-genetic-data-safe/>)

About

The Computational Biology Group brings together interdisciplinary and cross-disciplinary individuals and skillsets to tackle problems in high throughput genomics, systems biology, and genetics.

The group develops computational methods to analyze high throughput data on genetic variants within species, primarily human SNP, and sequencing data.

The student and postdoc body in the group is very diverse in terms of undergraduate background as well as current PhD program or postdoctoral affiliation. The group meets weekly giving an opportunity for students to present their research internally and feedback on one another's work. Weekly meetings occasionally give host to guest speakers, include a journal club, or extracurricular activities.

Faculty and Affiliates



(<https://web.ma.utexas.edu/users/ablumber/>)

**Andrew
Blumberg**
(<https://web.ma.utexas.edu/users/blumberg/>)



David Knowles
(<https://daklab.github.io/>)



Itsik Pe'er
(<http://www.cs.columbia.edu/~itsik>)



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



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

**Ansaf Salleb-
Aouissi**
(<http://www.cs.columbia.edu/~ansaf/>)



(<http://aqlab.io>)
**Mohammed
AlQuraishi**
(<http://aqlab.io>)



(<https://azizilab.com>)
Elham Azizi
(<https://azizilab.com>)



(<http://people.dbmi.columbia.edu/~noemie>)
Noemie Elhadad
(<http://people.dbmi.columbia.edu/~noemie>)



(<https://www.g2lab.org>)
Gamze Gursoy
(<https://www.g2lab.org>)

Research Labs



Computational Biology Bi-Group
(<http://www.cs.columbia.edu/compbio/>)

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-](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)

costly-bugs-in-crypto-code/?

redirect=0c99d322ac4a621f0cb1bf31ffea64ba)



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)

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

redirect=2275dd724f7cd014090b808bf9f6c3c9)



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)

FINANCIAL TIMES

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

TIME

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>)



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>)

SCIENTIFIC AMERICAN

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>)

Gothamist

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

Columbia Undergraduate Admissions (SEAS)

(Jeanette Wing)

(https://www.cs.columbia.edu/2023/does-ai-in-nyc-need-restrictions-officials-hold-closed-door-meeting-to-discuss/?)

ai-in-nyc-need-restrictions-officials-hold-closed-door-meeting-to-discuss/?

hold-closed-door-meeting-to-discuss/?

discuss/? (http://gradengineering.columbia.edu/ms-express-application-columbia-university-undergraduates)

redirect=557ac481d534504ff10bb8a2246504e8)

CS@CU MS Bridge Program in Computer Science (https://www.cs.columbia.edu/ms-bridge/)

(https://www.columbia.edu)

Links

Map (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/)

Contact

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MC0401

New York, New York 10027

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Fax: +1-212-853-8440

[Contact Us \(/contact\)](#)

[Directions \(https://www.cs.columbia.edu/resources/directions/\)](https://www.cs.columbia.edu/resources/directions/)

© Columbia (<http://columbia.edu/help/copyright.html>)

[Webmaster \(mailto:webmaster@cs.columbia.edu\)](mailto:webmaster@cs.columbia.edu)

[Privacy Policy \(https://www.cs.columbia.edu/privacy-policy/\)](https://www.cs.columbia.edu/privacy-policy/)