

**FACULTY OF
COMPUTING &
DATA SCIENCES
IMPACT
REPORT
2023**

A YEAR OF FIRSTS

**BOSTON
UNIVERSITY**

Boston University Faculty of Computing & Data Sciences





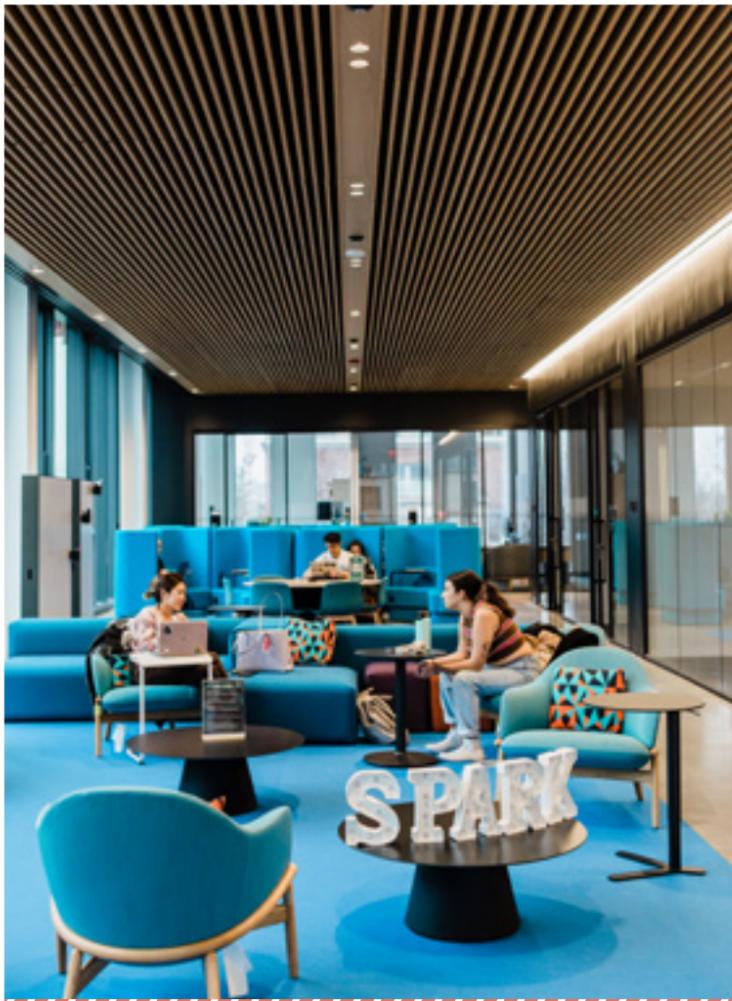
A YEAR OF INNOVATION



A YEAR OF DISCOVERY



A YEAR OF COLLABORATION



A YEAR OF INSPIRATION



LETTER FROM AZER BESTAVROS



The 2022–23 academic year was a year of firsts for the Faculty of Computing & Data Sciences (CDS). It will go down in history as a time in which computing became a landmark at the heart of campus, with data science emerging as the connective tissue of BU’s academic disciplines.

In December 2022, we celebrated the ribbon cutting of our towering 19-story LEED Platinum home, a testament to BU’s commitment to data-driven discovery and innovation. The building, with students nestled all over, has been buzzing with activity ever since.

Most fittingly, we started this year by matriculating our 78-strong inaugural Class of 2026 and ended it by celebrating the graduation of our first cohort of data science majors. We tripled the size of our core faculty, welcoming five in the fall and recruiting five more in the spring, and we added four staff members in support of academic programs and communications. This growth spurt allowed CDS to break new

ground by doubling our course offerings, launching our master’s program in data science, incorporating Bioinformatics into our graduate programs, securing extramural funding of \$5M+, and launching our first industry partnership with MassMutual on Responsible AI.

Through it all, the vibrant academic experience of our students was front and center, led by our expanding ranks of world-class faculty and staff and powered by the experiential learning and innovation programs of BU Spark!

I invite you to read more about this amazing year and join you in looking forward to all the exciting opportunities ahead.

Azer Bestavros
William Fairfield Warren Distinguished Professor & Associate Provost for Computing & Data Sciences

CONTENTS

A YEAR OF NEW BEGINNINGS

4 Innovation at First Sight

A YEAR OF ACADEMIC TRANSFORMATION

- 6 Educating Tomorrow’s Visionaries
- 10 On the Path to Greatness
- 12 Powered by BU Spark!
- 15 Who’s Afraid of ChatGPT? Not BU.

A YEAR OF DISCOVERY

- 16 At the Forefront of Data Science
- 18 The Power of Collective Brilliance
- 20 Collaboration at Its Very Best

A YEAR OF COMMUNITY & CAMARADERIE

- 22 Together for the Future
- 24 For the Fun of It

WHO WE ARE

Defying boundaries to make a global impact

The Faculty of Computing & Data Sciences (CDS) is a cross-cutting academic unit free from the limits of traditional academic structure. Founded in 2019, CDS has no schools, no departments, no divisions. Its unifying force is the innovative application of data science, machine learning, and AI technologies and methodologies. As such, CDS is a catalyst for synergy and integration across the landscape of academic disciplines at Boston University.

OUR VISION

We strive to improve the human condition by using computational and data-driven technologies, systems, and processes to address the greatest challenges facing our world.

OUR MISSION

We conduct cutting-edge research that matters to society; we provide students with rigorous education and vibrant academic experiences that unleash their innovative capacities; and we democratize access by learners, researchers, practitioners, and the public to the transformative power of computation and data.

OUR VALUES

We reward creativity and excellence; we recognize collaborative endeavors; we respect and trust each other; we celebrate our diversity of perspectives and lived experiences; and we uphold our moral and ethical responsibilities to the fullest.



INNOVATION AT FIRST SIGHT

BU unveils dramatic, fossil fuel-free Center for Computing & Data Sciences.
By Joel Brown

In December 2022, after a decade of planning and three years since breaking ground, city and University leaders cut a ribbon to open the data science center. Located at 665 Commonwealth Ave., the center is the most environmentally sustainable, energy-efficient structure BU has built, LEED Platinum certified, and one of the greenest buildings in New England.

“To have one of our very large buildings very plainly saying that not only can we make it work, not only is the technology there, but we are going to prove it and live it and have a place where you can feel it and experience it—that is so powerful,” said Boston Mayor Michelle Wu at the opening, “and we hope to take this example and replicate it” across the city. Azer Bestavros, associate provost for computing and data sciences,

noted that the “central location of the building is a manifestation of the role that computing plays in academia as the connecting tissue for interdisciplinary pursuits.”

Designed by Toronto’s KPMB Architects and built by Suffolk Construction, the \$305 million center has 19 stories and nearly 350,000 square feet of floor space. The Faculty of Computing & Data Sciences (CDS) shares the center with the College of Arts & Sciences Departments of Mathematics & Statistics and Computer Science, and the renowned Rafik B. Hariri Institute for Computing and Computational Science & Engineering. ■

Edited from a story published in BU Today. [Read the full story.](#)



MILESTONES

May 2020:
Construction begins

December 2022: Opening ceremony

January 2023:
Center for Computing & Data Sciences opens to the public

May 2023: Robert A. and Beverly A. Brown Faculty Fellows in Computing & Data Sciences endowed fund is announced

June 2023:
The center receives LEED Platinum certification

“To have one of our very large buildings very plainly saying that not only can we make it work, not only is the technology there, but we are going to prove it and live it and have a place where you can feel it and experience it—that is so powerful.”

BOSTON MAYOR MICHELLE WU



A new endowed fund to support the Robert A. and Beverly A. Brown Faculty Fellows in Computing & Data Sciences was announced in May 2023, and the center’s atrium was also named in honor of BU’s tenth president and his wife.

EDUCATING TOMORROW'S VISIONARIES

New academic programs prepare students to excel.
By Mark Crovella

The 2022–23 academic year marked major advancements in reaching Boston University's Faculty of Computing & Data Sciences' goals of delivering foundational, integrative, and in-the-field training in computing and data sciences. CDS programs target two kinds of students: those seeking to develop in-depth mastery of the methods of computing, data science, and AI and those seeking to develop strength in adapting and using computational and data-driven methods to address questions in various application domains. Each of CDS' degree programs is designed with these two populations in mind. Our programs are designed to instill a broad understanding of how computing, data science, and AI impact society and how soci-

etal concerns shape the use of computational and data-driven technologies. To that end, ethical and diversity considerations are incorporated in multiple places in the curriculum. Each degree program includes specific learning outcomes around the interaction of computing, data science, and society. In addition to weaving this theme in a multitude of offerings in core and elective courses, all CDS degree programs include required

coursework on responsible and ethical aspects of computing.

Expanding Course Offerings

The 2022–23 academic year signaled growth on many fronts. CDS took a major step forward in the 2022–23 academic year by building out the complete set of required courses in its undergraduate program. Degree requirements for the Bachelor of Science in Data Science include four foundation

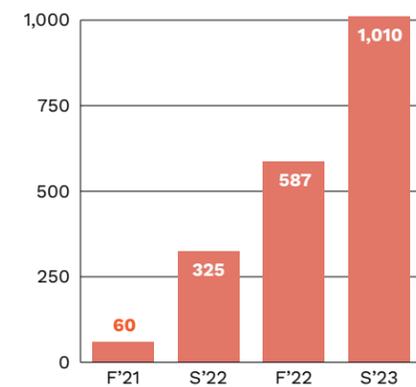
Students across CDS are introduced to a variety of flexible learning experiences that take them beyond the traditional classroom.



Our programs are designed to instill a broad understanding of how computing, data science, and AI impact society and how societal concerns shape the use of computational and data-driven technologies.

CDS PROGRAM ENROLLMENT

Spring 2023: Students from 41 departments and 55 HEGIS programs



MAJOR MILESTONES

47

faculty members appointed or affiliated with CDS from 24 departments in 11 schools/colleges

2

endowed professorships in artificial intelligence and environmental data sciences and 3 endowed PhD fellowships

\$3M

in grants and contracts from NSF, foundations, and industry

194 majors

(39% women) in data sciences and 63 minors (49% women)

30

undergraduate courses offered in Academic Year 2022–23

courses and six core courses, including electives and a capstone. Additionally, CDS developed several fresh elective offerings.

BS and PhD Programs Break New Ground

The Bachelor of Science in Data Science program launched in fall 2021, with over 75 students transferring into the major from other BU colleges and schools. A matriculating class of 78 students joined CDS as first-year students in fall 2022, and a first-year class of 93 students in fall 2023—along with dozens of intra-University transfers—brought the total number of students in the program to more than 320.

The minor in data science, launched in spring 2022, has rapidly grown, with a projected 160 students enrolled as of fall 2023. The minor is particularly popular with students majoring in economics and computer science, with strong interest also from students majoring in biology, psychology, neuroscience, business management, and mathematics. Students

minoring in data science also come from the College of Fine Arts, the College of Communication, the College of Engineering, and programs in international relations, sociology, physics, chemistry, and Earth & environment.

The PhD in Computing & Data Sciences program launched in fall 2020. It has been growing steadily, with the latest cohort of 12 students (six women) joining in fall 2023, bringing the total number of students in the program to 21.

CDS Launches New MS in Data Science

In spring 2023, CDS proudly announced its [Master of Science in Data Science program](#), with its inaugural cohort starting in fall 2023. Students completing the comprehensive, 32-credit program will acquire critical skills in mathematical modeling, data-centric computing, machine learning, security and privacy, and the social impacts of data science. Students have the option of concentrating on either core methods or applied methods of data science.



Students can be found collaborating in a variety of open spaces throughout CDS.

First Cohort of Wexler Fellows Selected

Out of a pool of over 250 applicants, in coordination with specific faculty members identified as potential PhD advisors, the computing and data sciences PhD admitted 21 students for fall 2023. The three top-ranked candidates—Wanli Cheng (CAS'20), Heila Precel, and Theodoros Tsilvis—accepted admission to BU after being offered the [prestigious Wexler Fellowship](#) (endowed by Trustee Peter Wexler).

Wanli Cheng completed his undergraduate degree with distinction in mathematics with a minor in physics from Boston University and completed a master's in physics at the University of Chicago.

Heila Precel completed her bachelor's at Brown University's computer science department and is currently working on trust and safety at Microsoft's Bing.

Theodoros Tsilvis graduated with his bachelor's and master's in electrical and computer engineering from the National Technical University of Athens.

CDS Welcomes Bioinformatics Program

The BU Bioinformatics program, founded in 1999, is recognized among the top research and graduate training bioinformatics programs in the US. Given its complementary focus, the [program moved into CDS in July 2023](#).

The move encourages collaboration in research, and students will benefit from new courses that focus on the fundamental principles and applications of data science methods in computational biology. ■

Mark Crovella is professor of computer science and chair of Academic Affairs for Computing & Data Sciences



DATA SCIENCE STUDENT GIVES PUBLIC HEALTH A BOOST

Kilachand Honors College student **Serena Theobald (CDS'25)** studies how data science can help public health organizations solve problems. She worked as an undergraduate research assistant in the epidemiology department at the School of Public Health under the direction of Assistant Professor Eleanor Murray in the Causal Decision Lab. Theobald modified a statistical model to assist research into HPV vaccines.

The model “weighs the costs and benefits of conventional HPV tests and self-screening HPV tests. We assessed the long-term benefits of each and what is most beneficial for women in preventing cervical cancer,” she says.

Edited from a story published in BU Today. [Read the full story.](#)

A YEAR OF ACADEMIC TRANSFORMATION

The inaugural class of CDS comprised five students who received a BS in data science, joined by three students who minored in data science. From left: Samantha Chen (CDS'24), Zining Ye (CDS'23), Yile Wang (CDS'23), Daniel Skahill (CDS'23), Wenyan Zhang (CAS'23), Sneha Korlakunta (CAS'23), EJ Wong (CDS'23), and John Bestavros (CAS'23).



ON THE PATH TO GREATNESS

**Celebrating
our inaugural class
of CDS graduates.**
By Joel Brown

Sunday, May 21, 2023, was a momentous day—the Faculty of Computing & Data Sciences graduated its first class.

First opened to undergraduates in 2021, the program awarded the BS in data science to four students; a fifth finishing in December 2023 also walked. Three students minoring in data science were also acknowledged.

For the 2022–23 academic year, 190 students enrolled in CDS' undergraduate degree program and

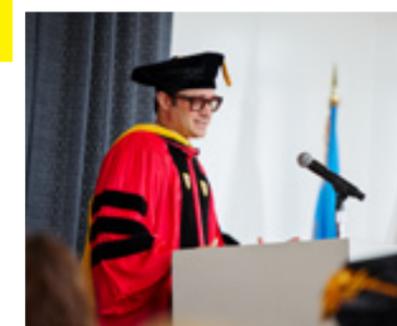
12 in its PhD program. The new MS in Data Science program welcomed its inaugural cohort in fall 2023. CDS expects 60 to 70 students to receive their BS next year, with an average of 120 to 150 in subsequent years.

CDS was created to offer an interdisciplinary approach to preparing students with the analytical and computational skills necessary for success in a world increasingly shaped by computation, big data, and artificial intelligence.

“Remember the importance of integrity. And as you navigate the

“Keep a focus on the human element of technology This is when the technology we build changes the world around us.”

CONVOCATION SPEAKER FREDRIC CIBELLI (CGS'97, CAS'99)



ever more complex landscape of computing and AI technologies, embrace the virtue of humility. Embrace the power of empathy,” Associate Provost Bestavros told graduates.

“Too much effort is wasted on technology features that don't solve a real-world problem. Keep a focus on the human element of technology This is when the technology we build changes the world around us,” said convocation speaker Fredric Cibelli (CGS'97, CAS'99), principal, Financial Services Organization, at Ernst & Young LLP. ■

Edited from a story published in BU Today. [Read the full story.](#)

BU'S PLEDGE OF THE COMPUTING AND DATA SCIENCE PROFESSIONAL

As a responsible computing and data scientist, I aspire to bring algorithms and data-driven software systems to bear on the challenges of our time; improve public understanding of computing technologies and their potential for good and ill.

As a practicing professional, I will always strive to respect and protect the dignity, privacy, and agency of all users, subjects, or objects of my work; recognize and disclose the limitations of my work and seek help from experts as needed; submit that knowingly or unknowingly, my work may impact lives now and into the future; and uphold my moral obligations and use my skills ethically for the public good and wellbeing of all.

With my actions, I pledge to honor my discipline and to pursue my career with the highest level of integrity and competence.

POWERED BY BU SPARK!

Cultivating student-driven innovation and experiential learning in CDS.
By Ziba Cranmer

Embedded within Boston University's Faculty of Computing & Data Sciences, [BU Spark!](#) is an innovation and experiential learning lab for computing, data science, and engineering projects. Located on the second floor of the Center for Computing & Data Sciences, Spark! provides infrastructure for student innovation projects and engagement in applied research or real-world technology projects while fostering an inclusive computing and data science community. As a cross-college entity, Spark! supported over 100 student-inspired events throughout spring 2023.

Spark! Demo Day, Experiential Learning Expo Reach New Heights

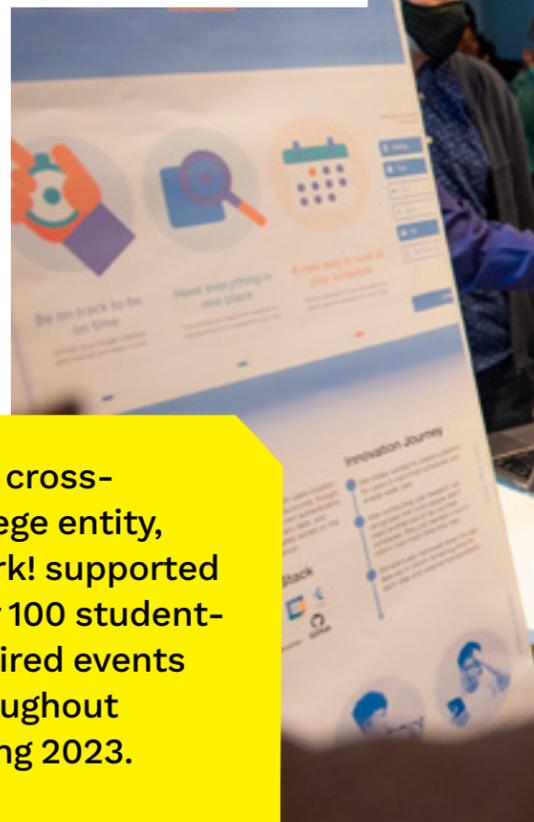
Demo Day is a signature Spark! showcase. The semi-annual event celebrates the work of student teams and the faculty, staff, and mentors who support experiential learning. In recent years, Demo Day joined forces with BU Hub's Cross-College Challenge to host

a University-wide showcase event. The [May 2023 Experiential Learning Expo](#) further expanded its reach to include both the BU Hub and the Learning Assistant program, welcoming nearly 100 student teams from across the three programs.

Demo Day projects ranged from web applications to improve constituent engagement and transparency in Boston's City Council District 7 to data-driven investiga-



As a cross-college entity, Spark! supported over 100 student-inspired events throughout spring 2023.

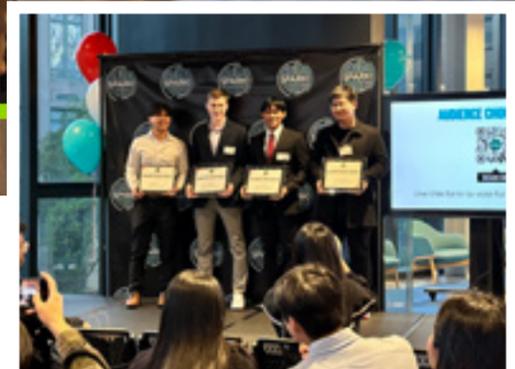


Over 400 BU students, faculty, staff, and partners attended the May 2023 Demo Day event.

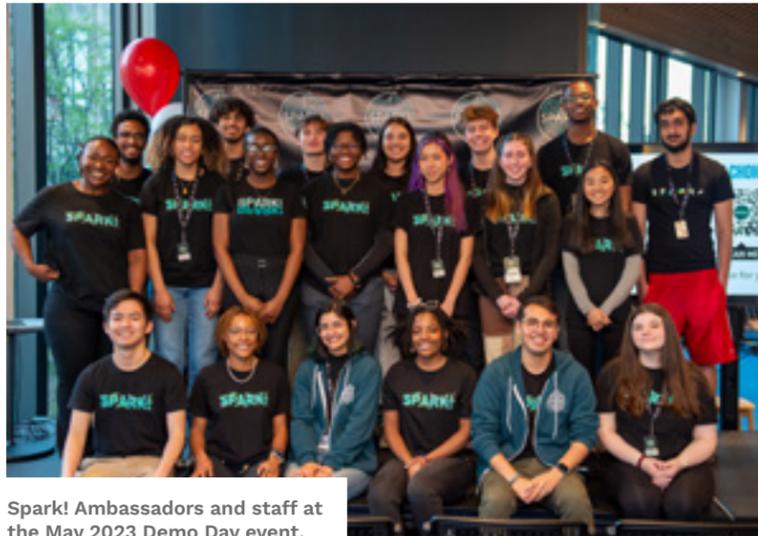
tive journalism pieces published in national media outlets. Demo Day judges included experts from Meta, Google, Microsoft, Red Hat, Intel, and more.

BU Spark! Ambassadors Shine Bright

Spark! Ambassadors develop and implement student-led activities that build connections among stu-



The recipient of the BU Spark! Demo Day Innovation Award was "Terrier Taste," an initiative aimed at combating food waste among BU students in on-campus dining. The Demo Day Audience Choice Award was given to the "Missing Children" project.



Spark! Ambassadors and staff at the May 2023 Demo Day event.

dents in the computing and data sciences at BU. Events and activities include TechTalks, hackathons, weekly community-building events, hands-on computing skill-building challenges, and much more.

TechTalks

Spark! Ambassadors hosted 23 TechTalks in 2022–23 and welcomed more than 520 student attendees. These workshops are led by Spark! partners, Experts in Residence, and industry mentors from Google, Microsoft, Red Hat, and others.

Student Innovation @BU Spark!

Students work in teams to identify and then solve real-world problems. Teams partner with industry mentors to create and launch a working prototype. In 2022–23, 76 students participated in the Innovation Fellowship program and launched 16 technology products with 62 industry mentors.

Experiential Learning @BU Spark!

Hundreds of students develop

real-world computing and data science projects for external partners with Spark! X-Lab (Experience Lab). Spark! offers eight practicum courses and dozens of internships each semester. In 2022–23, over 530 students participated in the X-Lab, completing 94 external projects.

Ignite Leadership Council

In 2022–23, the Ignite Leadership Council—student clubs building an inclusive and vibrant computing and data science community at Boston University led by Spark! Ambassadors—supported 19 clubs, hosted 137 club events, and elevated 34 student leaders with more than 4,000 registered participants. (Students may have attended multiple events.) Funding is provided by Spark!, CDS, the Department of Computer Science, the Department of Electrical & Computer Engineering, and the Rafik B. Hariri Institute for Computing and Computational Science & Engineering. ■

Ziba Cranmer is the director of BU Spark!



BY THE NUMBERS

2,848+
students

56%
female participation

725+
semester projects

260+
innovation fellows
(since 2017)

60+
mentors

10+
resident experts

25
student clubs

100+
events and programs

3
Spark! hackathons
(Academic Year
2022–23)

3
Ignite Club hackathons
(Academic Year
2022–23)

The GAIA Policy derives from a case study conducted by the 47 juniors and seniors enrolled in the inaugural offering of CDS DS 380 Data, Society, and Ethics, in spring 2023.



CDS adopts student-designed policy on generative AI use. By Joel Brown

In January 2023, when ChatGPT started making news, Professor Wesley Wildman tore up his lesson plan and assigned his undergraduate students in Data, Society, and Ethics to write a policy for responsible classroom use of generative artificial intelligence (AI) programs.

Only a few weeks later, the Faculty of Computing & Data Sciences adopted the class project as [CDS' official policy on generative AI assistance \(GAIA\)](#).

"It's from the first week of the first BU course on the ethics of computing and data sciences, in our first semester in the new building," says Associate Provost Bestavros. "I could not have written a better script."

The policy, authored by the 47 students, Wildman says, doesn't ban the technology, because CDS students need to learn to use it responsibly.

"CDS' responsiveness was partly due to the fact that it is small and new and agile, and also because it wants to be a leader helping the University think through these things," says Wildman, who is chair of Faculty Affairs at CDS.

The academic unit's policy says students should credit large language models (LLMs) whenever they are used. It also provides grading guidelines for faculty, saying they should treat work submitted by students who don't use LLMs as the baseline for grading.

"[ChatGPT] is such a powerful technology," says Olivia Bene (CAS'23), a computer science major in the class. "And if you're going to be a research university, you should be one that isn't afraid of new things that are coming out." ■

Edited from a story published in BU Today. [Read the full story.](#)



CREATING A BUZZ

[Local and national news organizations](#) covered the GAIA Policy and its use in the classroom.

- *Boston Business Journal*
- *Boston Globe*
- *BU Today*
- CNN
- *Daily Free Press*
- *Health Matters Podcast*
- *New England Council*
- *Reddit AMA/BU Experts*
- *The Crux of the Story Podcast*
- WBZ Radio
- WGBH Forum Network
- WHDH 7News

AT THE FOREFRONT OF DATA SCIENCE

These faculty are making world-changing breakthroughs.
By Matt Kalman



MAYANK VARIA

Using data without seeing the data. That's the fresh approach Associate Professor Mayank Varia takes with cryptography—and with data science. To do so, Varia and his colleagues have conducted research and development into “secure multiparty computation.” They’ve used this cryptographic tool with partners like the Boston Women’s Workforce Council, which enables employers to contribute their salary data for the exclusive purpose of calculating the city-wide gender and racial wage gap, without revealing the actual salaries of any employee or employer.



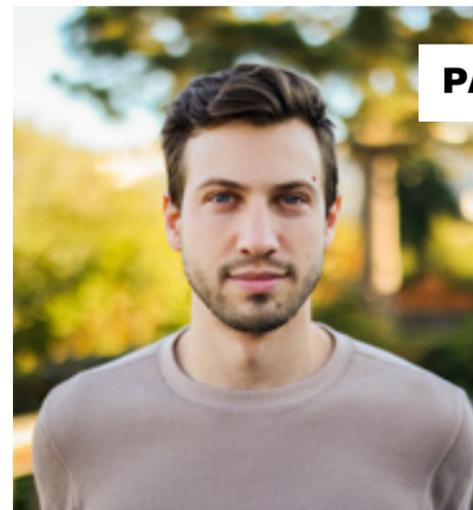
NGOZI OKIDEGBE

BU’s first dual-appointed faculty member in law and data sciences, Ngozi Okidegbe has long been interested in racial justice in society. Some of her work focuses on injustices related to when a judge determines whether to release or detain a person pending trial. Studies indicate class and race affect this process, resulting in the pretrial detention of a large number of defendants, primarily people of color, who pose no danger or flight risk. Some jurisdictions are using pretrial algorithms employing big data, statistical methods, and information about a defendant to predict those risks.



BRIAN CLEARY

An assistant professor and a core faculty member in the Bioinformatics program, Brian Cleary uses machine learning and computer science techniques to harness data accumulated over decades to study how cells and tissues in the human body work—and how genes express themselves. He aims to better understand the structure and function of human tissue, how it develops, and how diseases progress within it.



PAWEL PRZYTYCKI

The American Cancer Society (ACS) identifies and funds innovative early-career investigators and research institutions. In 2023, Pawel Przytycki, assistant professor and head of the Przytycki Lab, was added to this prestigious list of early innovators and awarded a \$50,000 cancer research grant, on behalf of ACS and the Boston Medical Center Cancer Center. Lab researchers build interpretable models rooted in a deep understanding of networks, graph theory, and statistics, with projects ranging from applying PageRank in cancer cell networks to redefining cell types as continuous states.



LEONIDAS KONTOTHANASSIS

After a decade and a half working at Google and Facebook, Leonidas Kontothanassis shifted his passion to academia in 2022 and became the inaugural MassMutual Professor of the Practice in the Faculty of Computing & Data Sciences. He wants CDS students to learn to operate in different cloud environments, which he says most companies, including start-ups, will be building on for the foreseeable future. Kontothanassis created a course that familiarizes students with various cloud environments so they’re better prepared for whatever comes their way as tech professionals.



ALLISON MCDONALD

Even something as simple as signing up for electrical service at your home could wind up putting your data in the hands of a government agency. Allison McDonald is working to make sure there’s more transparency in data sharing. McDonald joined CDS as an assistant professor in 2022. Her work seeks to ensure that marginalized groups—especially undocumented immigrants, sex workers, and victims of intimate-partner violence—are better protected online.

Edited from a story published in BU Today. [Read the full story.](#)

THE POWER OF COLLECTIVE BRILLIANCE

Recruiting the best and brightest professors and fellows.

By Wesley Wildman

BU's home-appointed faculty are joined by diverse professors from 24 departments in 11 of BU's schools and colleges. Nothing could demonstrate the Faculty of Computing & Data Sciences' role as an integrating force in the University more clearly, serving and enabling every unit. Most of the big problems confronting humanity can't be solved within disciplinary silos; they require experts and stakeholders representing a host of academic skills and experiential perspectives as well as new participatory methods of research. This expresses a way of thinking about universities that is rightfully winning public notice.

CDS can achieve none of that high-minded, revolutionary vision without faculty who embrace it and make it happen.

BU: Meeting the AI Demand

Industry experts predict that professions such as AI-solution architect, machine-learning engineer, computer-vision expert, and roboticist will soon be in high demand.



Xuezhou Zhang



Aldo Pacchiano

To train the next generation of data scientists and AI practitioners, BU launched a three-year AI cluster hiring initiative in fall 2022.

Led by CDS, in collaboration with other academic units across the University, the initiative covers foundational, methodological, and use-inspired dimensions of AI. For the first iteration of our search, almost 600 AI experts applied but only three were ultimately recruited: Aldo Pacchiano, Joshua Peterson, and Xuezhou Zhang.

In the fall of 2022, BU embarked on a multiyear AI cluster hiring initiative. The goal is to expand the University's footprint—crossing all BU schools and colleges—and to recruit faculty AI experts and train the next generation of AI practitioners.



Joshua Peterson

[Aldo Pacchiano](#) comes to BU as a tenure-track assistant professor in CDS. He was a postdoctoral researcher at Microsoft Research NYC and obtained his PhD at the University of California, Berkeley.

[Joshua Peterson](#) comes to BU as a tenure-track assistant professor in CDS. Before joining BU, Peterson was a postdoc in the Department of Computer Science at Princeton University and completed his PhD in cognition, brain, and behavior in the Department of Psychology at the University of California, Berkeley.

[Xuezhou Zhang](#) comes to BU as a tenure-track assistant professor in CDS. He was a postdoc associate in the Department of Electrical

and Computer Engineering and the Center for Statistics and Machine Learning at Princeton University. He received a PhD in computer science from the University of Wisconsin-Madison.

Data Science in the Humanities and Beyond

In 2021–22, Professors Neha Gondal and Wesley Wildman identified a need: BU faculty wanted to explore, engage, and apply computational and data science tools within their subject areas. With collaboration and the exchange of information in mind, Gondal and Wildman distributed a survey to select BU faculty, aiming to generate a preliminary profile of interest

in [Computational Humanities, Arts & Sciences \(CHASS\)](#), including public health, within BU. The survey data identified two areas of particular interest: collaborative research and grantsmanship, and the support of graduate students and CHASS-relevant courses.

On this basis, CDS launched a CHASS initiative in 2022–23, led by Gondal and Wildman. Priorities include the development of CHASS-related courses, methods, and learning resources. A Wired-In Quick-Chat video resource library was created based on brief introductory talks given during spring 2023.

Faculty Fellows Program

The CDS Faculty Fellows Program develops and nurtures a strong community of exceptional faculty who pursue novel computational and data-driven research with strong potential for long-term impact. The newly created program identifies and supports recently recruited faculty in various disciplines at BU and provides them opportunities to connect with CDS faculty members and programs.

Ana Fiszbein (2022) joined the biology faculty in the College of Arts & Sciences in January 2021. →

BY THE NUMBERS

11
Core Faculty

35
Affiliated Faculty

A YEAR OF DISCOVERY

Faculty Fellows Program, continued



Ana Fiszbein

Drawing on molecular, computational, genomics, and evolutionary approaches, her research focuses on the mechanisms, regulation, and evolution of mammalian gene expression.

Dokyun Lee (2022) is a Kelli Questrom Associate Professor in Management, an associate professor of information systems, and a digital business fellow at the Questrom School of Business. He studies the responsible application, development, and impact of AI in e-commerce and the digital economy, with a heavy focus on the economic impact of textual data along with content extraction, understanding, and engineering.

Debarghya Mukherjee (2022) is an assistant professor in the Department of Mathematics & Statistics in the College of Arts & Sciences. He completed a postdoctoral fellowship at Princeton University and earned a PhD in statistics at the University of Michigan. ■

Wesley Wildman is professor of philosophy, theology, and ethics and chair of Faculty Affairs for Computing & Data Sciences



COLLABORATION AT ITS VERY BEST

The MassMutual Data Days for Good mentorship program welcomed 21 students to the company's Seaport, Boston headquarters in June 2023.

Our research partnerships are integral to our impact.

By Rich Barlow

MassMutual gives \$3 million to CDS

In September 2022, Fortune 500 insurance company [MassMutual](#) provided a \$3 million gift to the Faculty of Computing & Data Sciences to support research into responsible uses of data. It follows the company's \$1 million gift of the previous year to the University's newest academic unit.

CDS and MassMutual held two events to address fairness, bias, and discrimination in the application of data science, and CDS-affiliated faculty have scheduled talks at MassMutual. In June 2023, 21 students joined MassMutual data scientists and engineers for the company's annual Data Days for Good mentorship program, which

will serve as the anchor event for the MassMutual-CDS summer experiential learning institute.

Hub for Civic Tech Impact

The CDS Hub for Civic Tech Impact studies the potential for technology to have disparate and harmful impacts on society and explores the design and evaluation of technology in the public interest. This year, several members of CDS conducted this research into computing and data sciences within the context of legal, societal, economic, and public policy frameworks.

Ngozi Okidegbe was awarded the [Moorman-Simon Interdisciplinary Career Development Professorship](#) and has a forthcoming article, "To Democratize Algo-

ritms," in the *UCLA Law Review*. The article problematizes the limits of current efforts to increase democratic participation around Massachusetts' use of algorithms and advocates for a new institutional structure to regulate them.

Kira Goldner, Mayank Varia, Langdon White, and Ziba Cranmer worked with the Boston Planning & Development Agency to use mechanism design and secure computation to determine when to fund struggling small businesses in Boston to achieve diverse storefronts, fewer storefront vacancies, and new store owners or locations.

Allison McDonald focuses on combating online harms, such as harassment and intimate image abuse. Her forthcoming article outlines a research agenda for technologists interested in designing tools for safer digital intimacy, such as cryptographic mechanisms that prevent intimate image

theft and tools for detecting and recovering from image abuse.

Public Interest Technology University Network

Since 2018, BU has been a member of the Public Interest Technology University Network (PIT-UN) and has won several grants to launch CDS-based initiatives focused on Civic Tech, including the Justice Media Co-Lab and a budding collaboration with Howard University on student-led PIT hackathons. PIT-UN also supported studies leading to the publication of two reports: *Understanding the State of the PIT Field* (2021) and *Bridging the CS-Law Divide* (2022). CDS hosted the [2023 PIT-UN Convening](#) on campus on October 12–13.

Spring 2023 ADSA Data Science Leadership Summit

CDS hosted the three-day [ADSA](#)

[Data Science Leadership Summit 2023](#) at the Center for Computing & Data Sciences in May. The national conference convened leadership and faculty to discuss data science and share best practices.

Defense Advanced Research Projects Agency (DARPA)

DARPA makes pivotal investments in breakthrough technologies for national security. CDS partnered with DARPA to host the performers on the agency's program for Securing Information for Encrypted Verification and Evaluation (SIEVE) in April 2023. More than 40 researchers from teams across the world convened to discuss their progress in achieving the goals of the SIEVE program and to forge new collaborations. ■

Edited from a story published in BU Today

DOING THINGS DIFFERENTLY: CDS ANNOUNCES FACULTY & STAFF AWARDS

In recognition of CDS' growth and the outstanding contributions of our faculty and staff community, we held our inaugural [Faculty & Staff Celebration & Awards](#) event. Citizenship Awards were presented to [Chris DeVits](#), director of administration, and [Allison McDonald](#), assistant professor of computing and data sciences. [Mayank Varia](#), associate professor of computing and data sciences, received the Distinguished Leadership Award.

The awards program and celebration event were designed to recognize the exceptional work of faculty and staff while reinforcing CDS' team environment. "We are trying to do something different here at CDS," said Azer Bestavros, associate provost for computing and data sciences. "The awards program recognizes the importance of student and peer mentorship, faculty and staff recruitment, citizenship, and more. And it is really important for CDS, as a young academic unit, to highlight these communal engagement activities early, to recognize the contributions of faculty and staff, and to celebrate our collective accomplishments."



From left: Gabe Kaptchuck, Azer Bestavros, Rep. Stephen Lynch, Rep. Ayanna Pressley, Eran Tromer, Allison McDonald, and Mayank Varia.

TOGETHER FOR THE FUTURE

Building community at BU and beyond.

Civic Voices

In October 2022, Rep. Ayanna Pressley (Hon.'21) (D-MA) and Rep. Stephen Lynch (D-MA) visited Boston University to discuss the [Electronic Currency and Secure Hardware \(ECASH\) Act](#). The bill is meant to develop and pilot digital dollar technologies that replicate the anonymity of physical cash in order to promote greater financial inclusion, maximize consumer protection and data privacy, and advance US efforts to develop and regulate digital assets.

The event, the first in the Faculty of Computing & Data Sciences' Civic Voices series, included a variety of presentations,

each addressing the needs of vulnerable populations often shut out of digital transactions.

MassMutual Co-Lab

Building ties between academia and industry is a critical part of CDS' real-world impact. To that end, MassMutual teamed up with CDS to launch the MassMutual Co-Lab.

Funded by \$4 million in MassMutual donations in recent years, the MassMutual Co-Lab:

- Supports recruitment of a non-tenure-track faculty member from outside academia to bring real-world expertise to the classroom

insurance companies, hospitals, or financial services firms.

Justice Media Co-Lab

A collaboration between CDS, BU Spark!, the College of Communication's journalism department, and the BU Hub Cross-College Challenge, the [Justice Media Co-Lab](#) enables students to use the latest computational tools and robust field reporting to produce data-driven, investigative news stories. In its second year, 45 students and 40 faculty and staff took part in the Co-Lab, creating nearly 20 news stories.

In partnering with BU, MassMutual hopes to widen its talent pipeline for new hires and bring on board people already skilled in the use of data sciences.

- Backs a program manager and software engineer to lead experiential learning activities
- Organizes efforts to promote diversity, equity, and inclusion (DEI) in data sciences
- Awards six \$10,000 MassMutual externship stipends to undergraduate students

In partnering with BU, MassMutual hopes to widen its talent pipeline for new hires and bring on board people already skilled in the use of data sciences. Students interested in data-based fields—but not in working for tech companies—will be attracted to businesses that also rely on data, such as health

Research on Tap: Broadening Participation in Computing

The Office of Research, CDS, and BU Diversity & Inclusion hosted a Research on Tap event highlighting BU research and programs about broadening participation in computing, as well as the potential impacts of not addressing these disparities. Researchers and practitioners from across BU shared their efforts to increase engagement at all stages of the education and workforce pipeline.

DEI Tech Collective Town Hall

In April 2023, the DEI Tech Collective, led by Information Services & Technology (IS&T), hosted its

TECH FOR CHANGE AND THE CIVIC TECH HACKATHON

Students from Boston University partnered with students from Howard University to establish the first chapters of Tech for Change, a national network of student clubs designed to use technology to foster a better, more equal society.

Our [first annual Civic Tech Hackathon](#), held in February 2023 at the Center for Computing & Data Sciences, drew more than 100 attendees to address social challenges using technology and data-centric solutions. The project themes and prizes focused on improving social welfare of vulnerable populations, expanding election turnout, and improving education outcomes.

Tech for Change and the hackathon are supported by New America's Public Interest Technology University Network Challenge Grant.

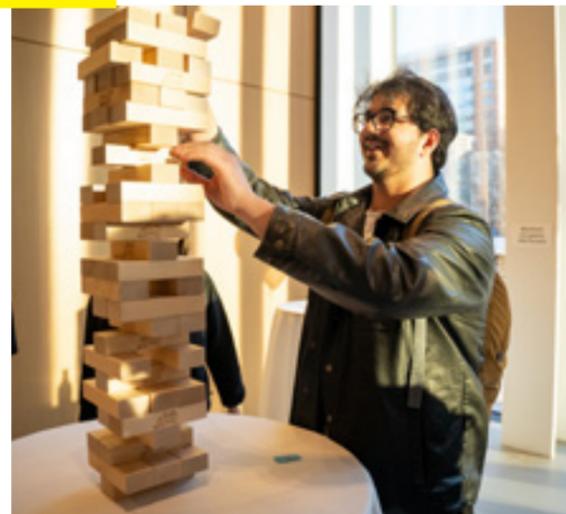
[second annual town hall](#) with CDS and BU Spark!. The call to action to: identify challenges; discuss programs, pathways, and new or ongoing DEI efforts; and plan for the future.

Presentations crossed a variety of disciplines and departments, including IS&T, BU Spark!, the Rafik B. Hariri Institute for Computing and Computational Science & Engineering, the College of Arts & Sciences Department of Computer Science, the Program in Mathematics for Young Scientists, and the University Service Center. ■



**FOR
THE FUN
OF IT**

Students bond over bunnies, Jenga, and data science.



Above: **Cookie O'Clock:** BU Spark! hosts a weekly community event where students take a break, play games, and grab a cookie.

Left: **Jenga in the Jenga Building:** Veer Sawhney (CAS'23) tests his block-manipulating skills during Jenga Night, March 21, 2023, in the CDS lobby. Photo by Danny Dolan (COM'26)



Barn Babies Visit CDS: Stephanie Kung (COM'23), left, and Kelly Ye (Questrom'23) cuddle with bunnies during a Barn Babies petting zoo event hosted by the Faculty of Computing & Data Sciences, spring 2023. Students signed up for 20-minute slots to snuggle with their choice of baby pigs, goats, bunnies, chicks, or kittens.



Celebrating Creativity: In support of community-building and health and wellness activities, CDS and CDS Student Government hosted a Paint Night. Students connected and showcased their creativity through the art of painting.



Yoga Nights at CDS: As a part of a commitment to wellness, CDS hosted several yoga sessions in spring 2023. Dozens of students participated in the mind and body practice and took in the sweeping city views from the 17th floor.



**Faculty of Computing
& Data Sciences**
665 Commonwealth Avenue
Boston, MA 02215

Copyright ©2023 by
the Trustees of Boston
University. All rights reserved.

Boston University's policies
provide for equal opportunity
and affirmative action in
employment and admission
to all programs of the
University.

In keeping with Boston
University's commitment
to sustainability, this
publication is printed on
FSC-certified paper.