

GOERGEN INSTITUTE FOR DATA SCIENCE

Spring 2021 Newsletter
From the University of Rochester



University of Rochester Class of 2021 on Wilson Quadrangle

Class of 2021

Congratulations to the data science Class of 2021! GIDS was thrilled to host a [partially in-person diploma ceremony](#) on campus this year to recognize our largest class of undergraduates to date. Data science senior **Sung Beom Park '21** gave an inspiring address to his cohort, and graduates from across the globe Zoomed in to join the festivities. Of the 62 undergraduates who received degrees, 25 graduated with Latin Honors, 35 graduated with departmental distinction, and 8 were inducted into Phi Beta Kappa, the nation's oldest undergraduate honor society. In addition, all of the class completed [data science capstone projects](#), and 10 capstone projects were featured in the [2021 Hajim School Senior Design Day](#). Commencement weekend also conferred degrees to 33 Master of Science in data science students: 6 who completed their degrees in May, 26 who completed their degrees in December 2020, and one who completed her degree in August 2020. Congratulations to the Class of 2021!

Graduates at a Glance

Of the 62 data science undergraduates receiving degrees in 2021

- 27 students (44%) received Bachelor of Arts (BA) degrees, and 35 students (56%) received Bachelor of Science (BS) degrees
- 41 students (66%) are male and 21 students (34%) are female
- 44 students (70%) completed more than one degree with dual, triple, and quadruple majors in data science and a wide variety of other fields, such as business analytics, brain and cognitive sciences, microbiology, music, and physics
- 19 students (30%) completed minors in diverse fields, such as computer science, economics, legal studies, and Spanish

We could not be prouder of our data science graduates and all of their accomplishments!



Erika Ramsdale '21 (MS)

Student Spotlight: Erika Ramsdale '21 (MS)

Since 2017, **Erika Ramsdale '21 (MS)** has balanced her clinical practice, research, mentorship, and family life with her studies, becoming one of the first part-time students to complete GIDS' 30-credit [Master of Science in data science](#) degree program. Ramsdale, an associate professor with URM's division of hematology and oncology, received the Rochester Area Colleges Continuing Education (RACCE) Outstanding Adult Student Award for her inspiring accomplishments as a non-traditional student. Post-graduation, she plans to apply her data science skills to her clinical work.

"The last time I had done programming was Fortran in college," Erika says. "Did the classes make me cry? Yes, quite regularly. Did I enjoy it nonetheless? Yes, very much. A couple classes into it, it became really obvious to me that this would be a skill set that very few people (in my field) would have. If I stuck it out, I would have that skill set. This is going to be the future of how we make clinical decisions."

Open to all faculty, staff, students, and community members

Data Science Spring 2021 Speaker Series

Fridays, 2-3 p.m. (Virtual, Zoom)

	FEB 19	Commodity Hardware Is All You Need for Large-Scale Deep Learning Anshumali Shrivastava, Assistant Professor of Computer Science, Rice University Zoom link: https://goergen.zoom.us/j/27986139951
	MAR 12	AI-Powered Extraction of Knowledge from Social Media Yiannis Kompatsiaris, Research Director, Information Technologies Institute (ITI), Centre for Research & Technology Hellas (CERTH) Zoom link: https://goergen.zoom.us/j/27986131201
	MAR 26	Subvector Inference in Partially Identified Models with Many Moment Inequalities Alexandre Belloni, John D. Foyth Professor of Business Administration and Statistical Science, Duke University Zoom link: https://goergen.zoom.us/j/27986132821
	APR 2	Interpretable Prediction of Obstructive Lung Disease from Chest Radiographs with Deep Learning Tolga Tasdizen, Professor of Electrical and Computer Engineering, University of Utah Zoom link: https://goergen.zoom.us/j/27986134581
	APR 16	(Re-)Imagining Price Trends Dacheng Xu, Professor of Economics and Statistics, University of Chicago Zoom link: https://goergen.zoom.us/j/27986135851
	APR 23	Using Data Science to Uncover the Morphogenetic Blueprints of the Fly Embryo Tomer Stern, Postdoctoral Research Fellow, Princeton University Zoom link: https://goergen.zoom.us/j/27986136071
	APR 30	Cell Atlases as Roadmaps Aviv Regev, Head of Research and Early Development, Genentech Zoom link: https://goergen.zoom.us/j/27986137481

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Poster for Data Science Spring 2021 Speaker Series

Data Science Spring 2021 Speaker Series

Throughout the spring semester, GIDS hosted seven faculty and research leaders from across the globe for its Data Science Spring 2021 Speaker Series. These virtual research talks covered a wide variety of data science-related disciplines, including social media, genomics, econometrics, deep learning, and radiography.

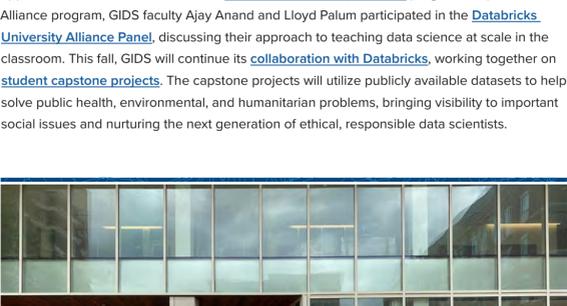


Clockwise from top left: Seda Unal '17 (MS), Sam Rusoff '19, Sahar Nasiri '19 (MS), Rishi Sharma '16 (MS)

Alumni Spotlight

Rishi Sharma '16 (MS), Sahar Nasiri '19 (MS), Seda Unal '17 (MS), and Sam Rusoff '19

This spring, GIDS enjoyed virtual visits from several data science alums. Throughout the semester, GIDS alum **Rishi Sharma '16 (MS)**, **Sahar Nasiri '19 (MS)**, **Seda Unal '17 (MS)**, **Sam Rusoff '19** gave Zoom-based career talks to current students, chronicling their job paths, work projects, and tips for a career in data science. Thank you to our stellar alumni for staying engaged and giving back to the GIDS community!



Diversity graphic

New Paper Addresses Effects of Diverse Social Networks

[A new paper](#) in *Scientific Reports*, coauthored by **Gourab Ghoshal**, cochair of the GIDS complex systems and network data science working group, and former GIDS interim director **Ehsan Hoque**, demonstrates that diverse social networks increase individual creativity. Ghoshal, Hoque, and their colleagues performed controlled experiments with 200 people in a dynamic social network. They found that when demographic information is masked, we form gender and race-agnostic connections, leading to better creative outcomes. In the presence of demographic information, gender-based homophily persists, leading to less creative output.



databricks

GIDS and Databricks Collaborate on Data Science Projects for Social Good

In spring 2021, GIDS launched Data Science at Scale, a hands-on introduction to data-intensive applications, that benefitted from the [Databricks University Alliance](#) program. As part of the Alliance program, GIDS faculty **Ajay Anand** and **Lloyd Palum** participated in the [Databricks University Alliance Panel](#), discussing their approach to teaching data science at scale in the classroom. This fall, GIDS will continue its [collaboration with Databricks](#), working together on [student capstone projects](#). The capstone projects will utilize publicly available datasets to help solve public health, environmental, and humanitarian problems, bringing visibility to important social issues and nurturing the next generation of ethical, responsible data scientists.



Summer 2021 NSF REU participants, faculty, grad mentors, and staff

Music, Media, and Minds NSF REU

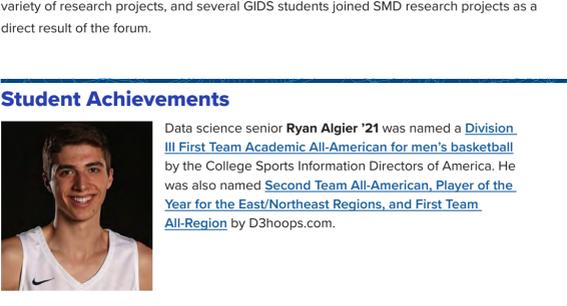
After a hiatus in 2020 due to the COVID-19 pandemic, GIDS resumed its [NSF-funded Research Experience for Undergraduates \(REU\)](#) for summer 2021. In May, the institute welcomed 10 students from colleges and universities around the country, with strong representation from underrepresented minorities in computing. The REU students will work with GIDS-affiliated faculty members and other Rochester faculty on interdisciplinary research topics related to data science, music, media, and the mind.



Stop Asian Hate mural painting

Research Spotlight: Data Mining Twitter to Examine the #StopAAPIHate Movement

[A new study](#) from GIDS-affiliated faculty member **Jiebo Luo** utilizes data mining to survey public opinion toward the [#StopAsianHate](#) and [#StopAAPIHate](#) Twitter hashtags. Dr. Luo, working with GIDS alumnus **Hanjia (Bruce) Lyu '20 (MS)**, found that the growing political divide in the US extends to the issue of hate crimes against Asians and Pacific Islanders. Luo and his team were also able to pinpoint which demographic groups the hashtags were most popular with, and where they received the most support.



Cover of Data Feminism book

Neilly Author Series: Catherine D'Ignazio and Lauren F. Klein

On April 22, 2021, GIDS cohosted Catherine D'Ignazio and Lauren F. Klein, authors of the new book, *Data Feminism*, for the River Campus Libraries' [Neilly Author Series](#). The virtual lecture brought the Rochester community together for an important conversation about data science, data ethics, and intersectional feminism.

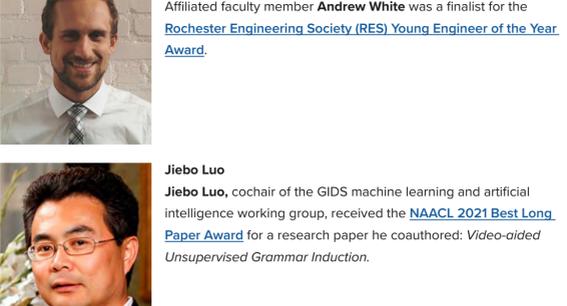


Image captured by microscope

Beckman Foundation Grant Will Create New Light-Sheet Microscope on Campus

[A new multi-disciplinary grant](#), shared by GIDS and Rochester's biology, biomedical engineering, and optics departments, will establish an innovative microscopy resource on campus. The \$1.2 million grant, awarded by the Arnold and Mabel Beckman Foundation, will support the development and building of a novel, light-sheet microscope, allowing for cutting-edge biological imaging research at Rochester.



StudioX graphic

Voices of XR

Throughout the spring semester, GIDS cohosted [Voices of XR](#), a virtual speaker series on the applications of augmented and virtual reality (AR/VR). The new series involved AR/VR leaders from all over the world—sparking conversations on the role of AR/VR in a variety of fields, such as medicine, computing, and chemistry. The series was supported by an NSF AR/VR training grant and was cohosted by StudioX, University of Rochester's extended reality (XR) hub.

University of Rochester School of Medicine and Dentistry

SMD-GIDS Medical Research Forum

In February, GIDS collaborated with the Clinical & Translational Science Institute (CTSI) and the Health Sciences Center for Computational Innovation (HSCCI) to host the virtual Medical Research Forum. The forum brought together data science students and School of Medicine and Dentistry (SMD) researchers with data analytics needs. Students learned about a wide variety of research projects, and several GIDS students joined SMD research projects as a direct result of the forum.

Student Achievements

Data science senior **Ryan Algier '21** was named a [Division III First Team Academic All-American for men's basketball](#) by the College Sports Information Directors of America. He was also named [Second Team All-American, Player of the Year for the East/Northeast Regions, and First Team All-Region](#) by D3hoops.com.

Data science undergraduate **Yaxin Yang '22** won the [Catherine Block Memorial Prize](#). The award is made each year to a woman in the junior class to recognize her outstanding ability and achievement in the field of science.

GIDS MS students **Cameron Baker** and **Stephen Gass** won gold in the [UPSTAT Data Analytics Competition](#). The competition focused on how data science and statistics can help visualize and add context to policing disparities, promoting equity, fairness, and justice.

Faculty Awards and Recognition

Yuhao Zhu
Affiliated faculty member **Yuhao Zhu** received an [NSF CAREER Award](#) to design interacting software and hardware mechanisms that can increase the performance and energy efficiency of smaller and smaller transistorized chips.

Andrew White
Affiliated faculty member **Andrew White** was a finalist for the [Rochester Engineering Society \(RES\) Young Engineer of the Year Award](#).

Jiebo Luo
Jiebo Luo, cochair of the GIDS machine learning and artificial intelligence working group, received the [NAACL 2021 Best Long Paper Award](#) for a research paper he coauthored: *Video-aided Unsupervised Grammar Induction*.

Scott Steele
Scott Steele, cochair of the GIDS healthcare analytics and digital health working group, was appointed to the [Association for Clinical and Translational Science \(ACTS\) Board of Directors](#) for a second term, 2021–2022.

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