

GOERGEN INSTITUTE FOR DATA SCIENCE

Fall 2020 Newsletter
From the University of Rochester

CONGRATULATIONS UNIVERSITY OF ROCHESTER CLASS OF 2020

Banner for the University of Rochester Class of 2020

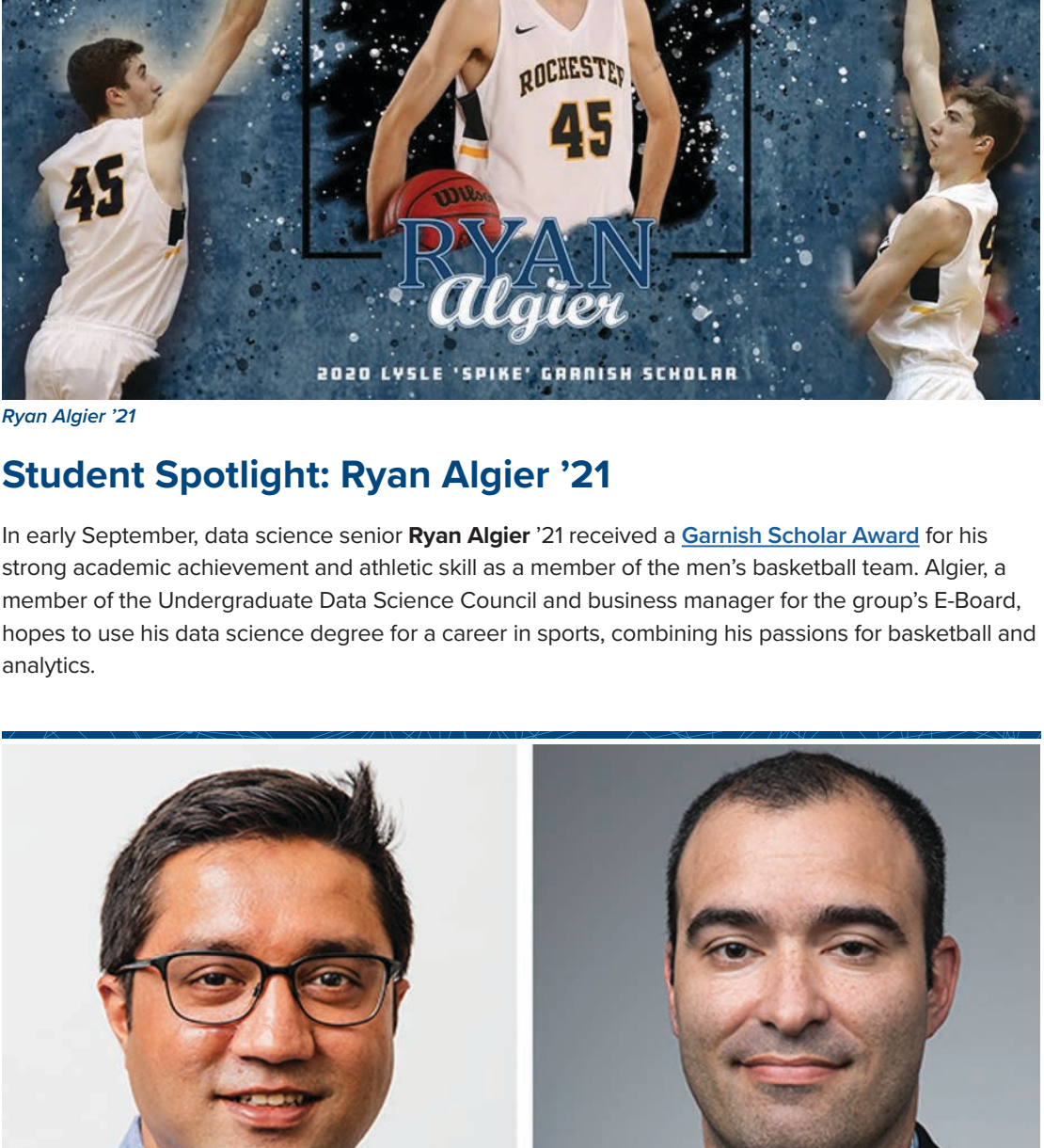
December Class of 2020

On December 18, the Goergen Institute for Data Science graduated 26 master of science in data science candidates with a virtual degree conferral ceremony. The December 2020 class made up the fifth cohort of students in the GIDS master of science program and the third cohort to complete the expanded, three-semester curriculum. Congratulations to our graduates; we are so proud of all your accomplishments!

Over the Summer

August 2020 was an eventful month for the Goergen Institute! From mid-August through early September, the [Greater Data Science Cooperative Institute \(GDSCI\)](#) hosted the [Tripods NSF-REU and Grad Stem for All](#) summer programs. The programs introduced participants from the University of Rochester, Rochester Institute of Technology, and Cornell University to the high-level mathematics behind some of the biggest advances in data science. Students explored the subject matter through Python programming and a wide variety of projects. Organizer and GIDS-affiliated faculty member [Alex Iosevich](#) led a team of faculty from nine different universities to support and instruct the students.

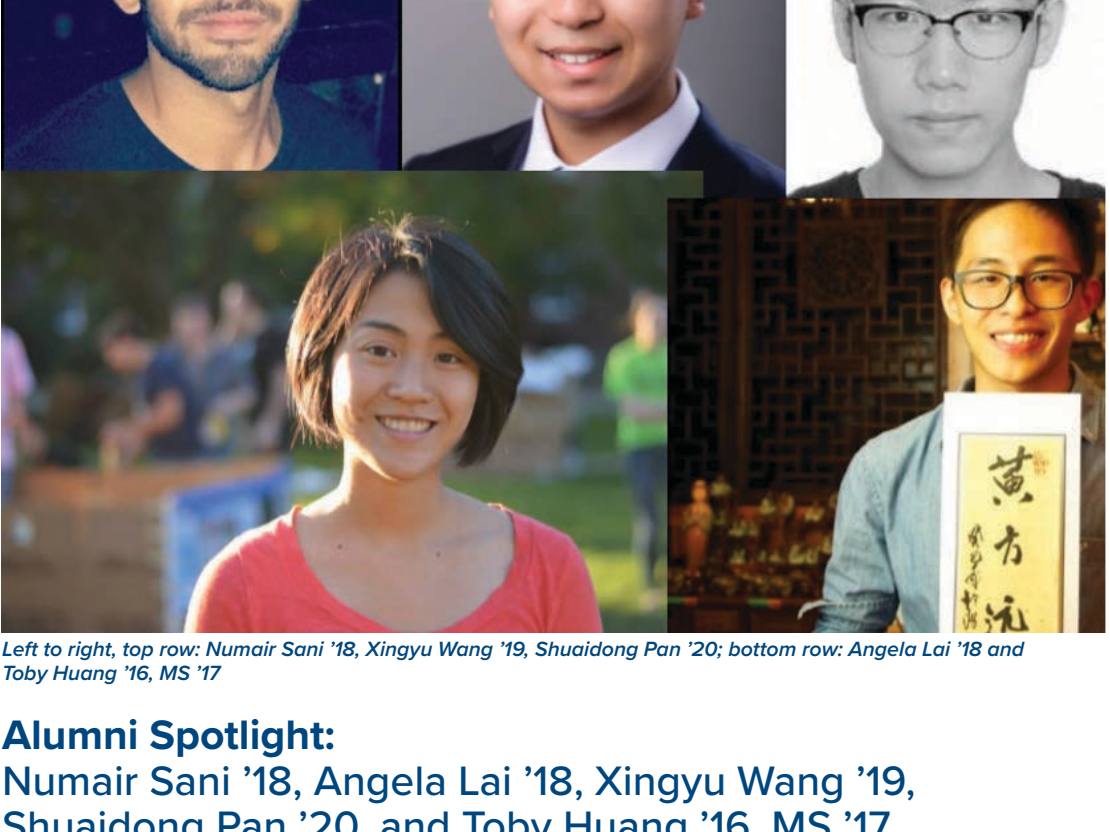
Also in 2020, the GIDS life sciences and biomedical data science working group, led by cochair [Amanda Larracuente](#), [Andrew McDavid](#), and [Matt McCall](#), hosted its first [Biomedical Data Science Hackathon](#). The hackathon gave students from across the University the chance to apply data science solutions to a health care problem and compete for cash prizes.



City Twitter graphic

COVID Twitter Research Monitors Feelings about the Pandemic

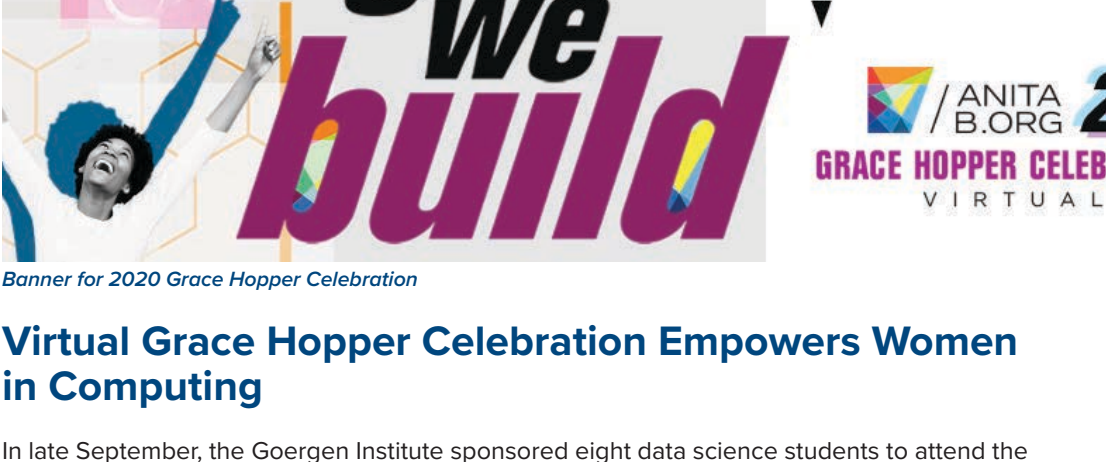
Since the start of the COVID-19 pandemic, GIDS-affiliated faculty member [Jiebo Luo](#) has been monitoring Twitter closely. Luo, cochair of the GIDS machine learning and artificial intelligence working group, views Twitter as a treasure trove of “in the moment” information that can be used to detect shifts in public opinion on a variety of issues. In July, [his group released new research](#): using cutting-edge machine learning and data mining techniques, Luo and his students compiled and analyzed tweets about the pandemic to monitor the public’s feelings about and behaviors in response to the progression of COVID-19. The results of their research were shared at the [Computing Research Association \(CRA\) Virtual Conference](#) and covered on the data science podcast [Data Skeptic](#).



Ryan Algier '21

Student Spotlight: Ryan Algier '21

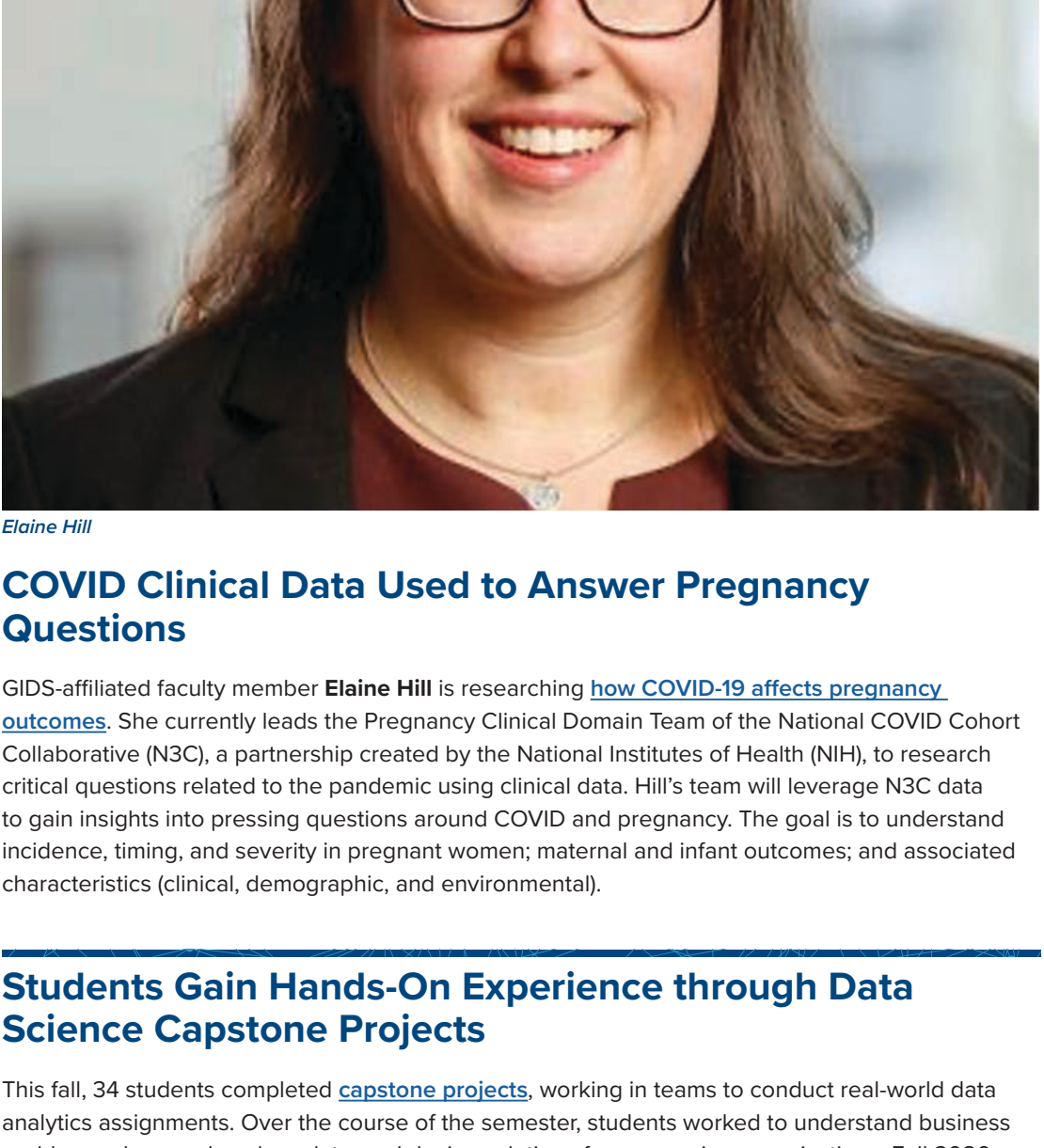
In early September, data science senior [Ryan Algier](#) '21 received a [Garnish Scholar Award](#) for his strong academic achievement and athletic skill as a member of the men’s basketball team. Algier, a member of the Undergraduate Data Science Council and business manager for the group’s E-Board, hopes to use his data science degree for a career in sports, combining his passions for basketball and analytics.



Gaurab Ghoshal (left) and Gonzalo Mateos

GIDS Announces New Asaro Biggar Fellows

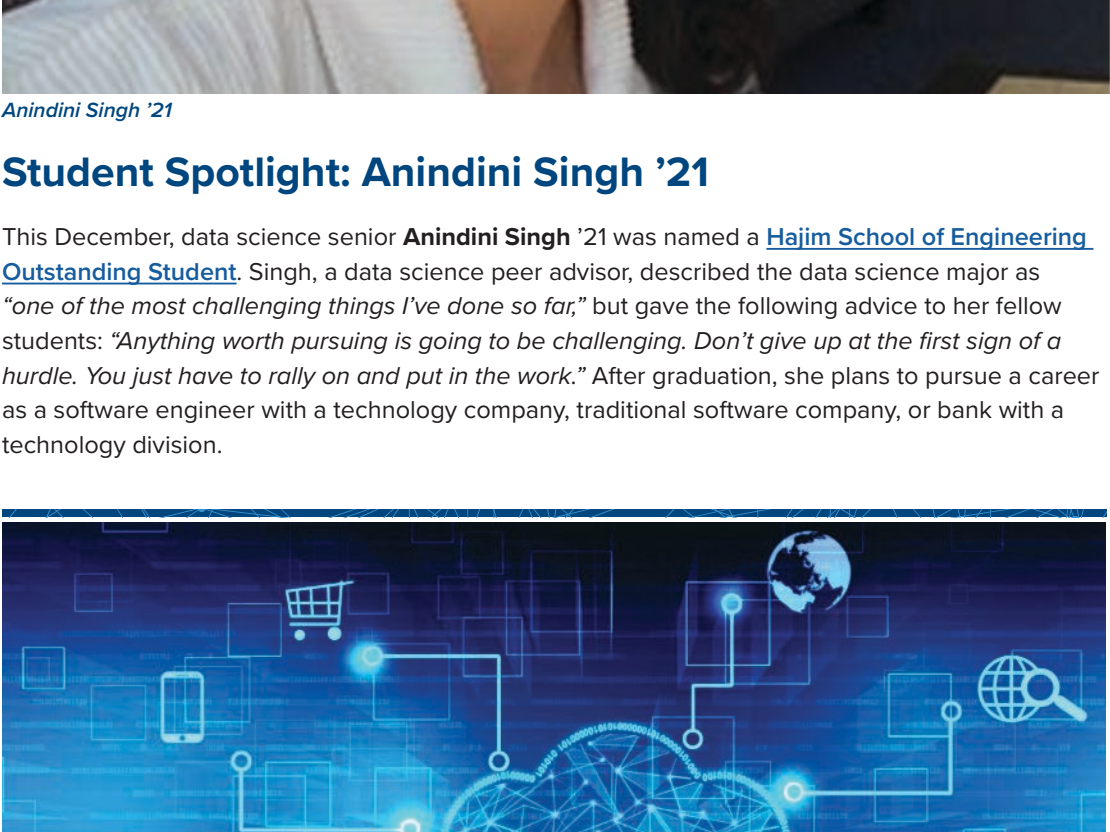
Earlier this year, GIDS announced [Gourab Ghoshal](#) and [Gonzalo Mateos](#) as the [newest Asaro Biggar Fellows in Data Science](#). The [Asaro Biggar Fellowships](#), funded by [University Trustee Stephen Biggar](#) '92 and his wife, [Elisabeth Asaro-Biggar](#) '92, support tenured or tenure-track Arts, Sciences & Engineering faculty members who use data science methods to frame, analyze, and resolve the most pressing issues in their fields. Ghoshal and Mateos, both cochairs of the GIDS complex systems and network data science working group, succeed 2017–20 Asaro Biggar Fellows [Amanda Larracuente](#) and [Ehsan Hoque](#) and will be supported by the fellowships until 2023.



Left to right, top row: Numair Sani '18, Xingyu Wang '19, Shuaidong Pan '20; bottom row: Angela Lai '18 and Toby Huang '16, MS '17

Alumni Spotlight: Numair Sani '18, Angela Lai '18, Xingyu Wang '19, Shuaidong Pan '20, and Toby Huang '16, MS '17

This semester, GIDS enjoyed virtual visits from several data science alums. On September 11, [Numair Sani](#) '18, [Angela Lai](#) '18, [Xingyu Wang](#) '19, and [Shuaidong Pan](#) '20 were panelists for [How I Got Into Grad School](#), a special advice session for data science students applying to graduate school. On September 25, [Toby Huang](#) '16, MS '17, gave a [career talk](#) to current students, chronicling his job path, work projects, and tips for a career in data science. Thank you to our stellar alumni for participating in our fall semester activities and giving back to the GIDS community!



Banner for 2020 Grace Hopper Celebration

Virtual Grace Hopper Celebration Empowers Women in Computing

In late September, the Goergen Institute sponsored eight data science students to attend the [2020 Grace Hopper Celebration \(vGHC\)](#), a series of conferences designed to bring the research and career interests of women in computing to the forefront. Although Grace Hopper, the world’s largest gathering of women in computing, was held virtually this year, GIDS students felt empowered by the talks and workshops they attended and the connections they made at the conference.

Data science undergraduate [Wei Wu](#) '22, who received a job offer from Barclays as a result of attending vGHC, said the following about her experience at this year’s conference:

“As an international, first-generation, and female student, I was pessimistic about obtaining an internship opportunity in the US because of a variety of external and internal obstacles. However, thanks to vGHC, which offers a platform for students like me to get in touch with employers and communicate my professional identity to seniors from different fields, I received the first job offer in my life and would have a higher starting point for my career path.”



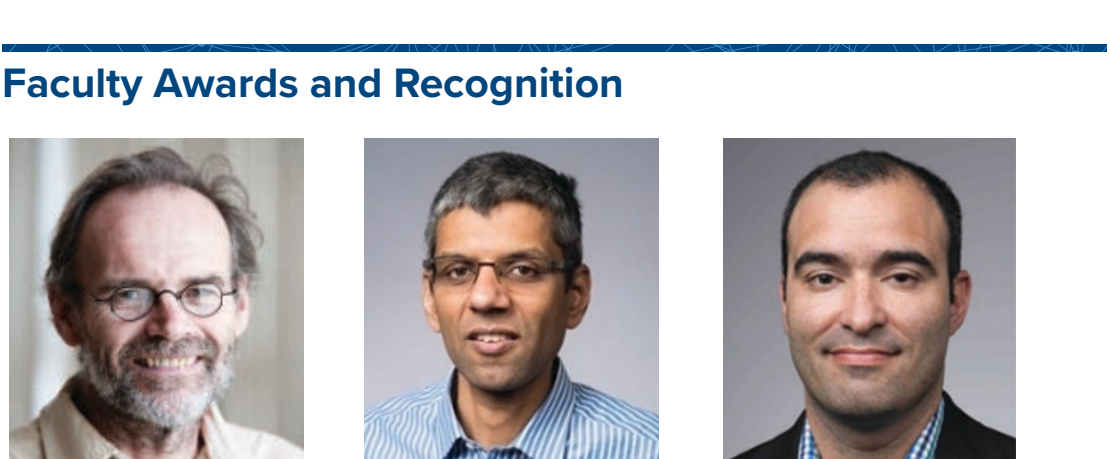
Elaine Hill

COVID Clinical Data Used to Answer Pregnancy Questions

GIDS-affiliated faculty member [Elaine Hill](#) is researching [how COVID-19 affects pregnancy outcomes](#). She currently leads the Pregnancy Clinical Domain Team of the National Cohort Collaborative (N3C), a partnership created by the National Institutes of Health (NIH), to research critical questions related to the pandemic using clinical data. Hill’s team will leverage N3C data to gain insights into pressing questions around COVID and pregnancy. The goal is to understand incidence, timing, and severity in pregnant women; maternal and infant outcomes; and associated characteristics (clinical, demographic, and environmental).

Students Gain Hands-On Experience through Data Science Capstone Projects

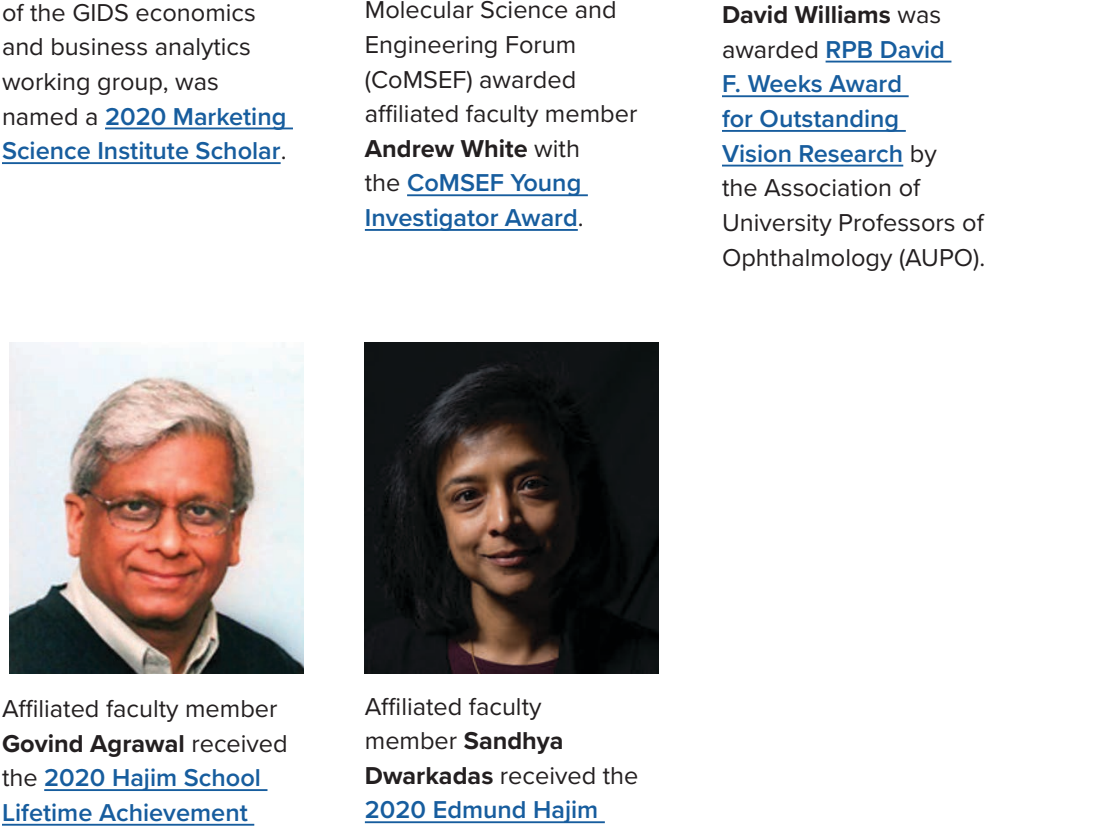
This fall, 34 students completed [capstone projects](#), working in teams to conduct real-world data analytics assignments. Over the course of the semester, students worked to understand business problems, clean and analyze data, and devise solutions for sponsoring organizations. Fall 2020 sponsors included Constellation Brands, Regional Transit Service (RTS), Wegmans, Paychex, United Way, Shopatki, and the University Facilities and Services division as well as River Campus Libraries. For a list of past sponsors and projects, visit [the data science capstone website](#).



Anindini Singh '21

Student Spotlight: Anindini Singh '21

This December, data science senior [Anindini Singh](#) '21 was named a [Hajim School of Engineering Outstanding Student](#). Singh, a [data science peer advisor](#), described the data science major as “one of the most challenging things I’ve done so far,” but gave the following advice to her fellow students: “Anything worth pursuing is going to be challenging. Don’t give up at the first sign of a hurdle. You just have to rally on and put in the work.” After graduation, she plans to pursue a career as a software engineer with a technology company, traditional software company, or bank with a technology division.



GIDS Unveils New Course for Spring 2021

In the ever-expanding and evolving world of data science, the Goergen Institute aims to equip its students with real-world applied skills that are relevant to the world we live in. That’s where the new, Spring '21 course, Data Science at Scale (DSC 202/402), comes in. DSC 202/402 will be taught by [Vnomics](#) CTO [Lloyd Palum](#) and CIRC director [Brendan Mordt](#) and supported by Databricks through its [University Alliance Program](#). Data Science at Scale provides a hands-on experience to students and will teach them to develop data-intensive applications (DIA) at scale in the Cloud. DIAs handle huge volumes of data (think terabytes and petabytes!) and are an essential part of many valuable services we rely on today. In DSC 202/402, students will learn how to orchestrate the complete DIA pipeline to deliver business value in a commercial transportation application.

Andrew White (left) and Matt McCall

Research Spotlight: Matt McCall and Andrew White

This semester, GIDS life science and biomedical data science working group cochair [Matt McCall](#) and GIDS-affiliated faculty member [Andrew White](#) received substantial National Institutes of Health (NIH) grants for new research projects. McCall, an associate professor of biostatistics, [received a \\$1.97 million R01 grant](#) from the National Institute of General Medicine Sciences (NIGMS) to develop statistical methods to improve the analysis of microRNA sequencing data. White, an assistant professor of chemical engineering, [received a \\$1.76 million R35 award](#) from the NIH to explore a new form of deep learning called meta-learning that mimics the human-like ability to learn from few examples.

Poster for Data Science Fall Speaker Series

Data Science Fall Speaker Series

Throughout the fall semester, GIDS hosted seven faculty and research leaders from across the country for its [Data Science Fall Speaker Series](#). These virtual research talks covered a wide variety of data science–related disciplines, including political science, and cognitive science, computational biology, optics, computational social science, and vision science.

Faculty Awards and Recognition

Affiliated faculty member [James Allen](#) was named a [fellow of the American Association for the Advancement of Science \(AAAS\)](#).

GIDS Deputy Director [Ajay Anand](#) was appointed to the [Northeast Student Data Corps \(NSDC\) Founding Committee](#), an initiative of the Northeast Big Data Innovation Hub.

[Gonzalo Mateos](#), cochair of the GIDS complex systems and network data science working group, was awarded the 2020 IEEE SPS Young Author Best Paper Award for a research paper he coauthored: [Network Topology Inference from Spectral Templates](#).

[Mitch Lovett](#), cochair of the GIDS economics and business analytics working group, was named a [2020 Marketing Science Institute Scholar](#).

The Computational Molecular Science and Engineering Forum (COMSEF) awarded affiliated faculty member [Andrew White](#) with the [COMSEF Young Investigator Award](#).

Affiliated faculty member [David Williams](#) was awarded [RFB David F. Weeks Award for Outstanding Vision Research](#) by the Association of University Professors of Ophthalmology (AUPO).

Affiliated faculty member [Govind Agrawal](#) received the [2020 Hajim School Lifetime Achievement Award](#).

Affiliated faculty member [Sandhya Dwarakadas](#) received the [2020 Edmund Hajim Outstanding Faculty Award](#).

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