Where Research Meets Reality
Professors share insights on their innovative methodology
**Bright Future for Data Specialists**

**IN ITS LATEST ASSESSMENT OF LABOR MARKET TRENDS, the US Bureau of Labor Statistics (BLS) predicts that the demand for skilled market research analysts and data scientists will grow by 19% and 30%, respectively, within this decade. Given that this rate of expansion far outpaces expected growth in other professions, Master of Social Data Analytics (MSDA) graduates can look forward to wonderful career opportunities. Even during the economically challenging first years of the pandemic, our graduates have found rewarding positions, suggesting that the growth the BLS predicts has already begun.**

Even during the economically challenging first years of the pandemic, our graduates have found rewarding positions...

Now in its eighth year, the MSDA program continues to grow and evolve, too, with more course offerings at the cutting edge of social science research and increased emphasis on professionalization. In the past year, the Department of Sociology has hired several new faculty members who are developing new course offerings in advanced research methods. In May 2022, we held our first community day, a weekend breakfast reception for MSDA graduates and their families, with research presentations by each graduate. And this year, we organized an alumni speakers’ dinner that brought recent graduates back to Brown to speak with current MSDA students about strategies for landing the right job and fully leveraging their graduate-level education in the labor market.

In this issue of Social Data Analytics, several of our graduates share their learning and career trajectories, and faculty discuss their methodological approaches to research and teaching. If you have any questions about the program and/or suggestions for future coverage of our community and the field itself, please let us know. We would love to hear what’s on your mind.

**David P. Lindstrom Ph.D.**
Program Director / Professor of Sociology

**Carrie Spearin Ph.D. ’07**
Associate Program Director / Senior Lecturer

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**Visualizing Outcomes Among the Most Vulnerable**

**THERE’S SOMETHING SUPREMELY SATISFYING about seeing a natural passion blossom into a rewarding career that impacts people around the world. For Assistant Professor Kevin Mwenda, the initial pull towards understanding the world in terms of mapping— or visualizing location in space—started very early. “I was always fascinated with maps, even as a young kid,” he says, yet at that point he had never heard of what he now teaches and practices: the intricacies of Geographic Information Systems (GIS), along with the latest concepts and methods in spatial research and analysis.**

In 2018, Mwenda arrived at Brown fresh from earning a PhD in Geography from the University of California at Santa Barbara. Despite Brown’s lack of a stand-alone Geography department, he has found a home as a faculty affiliate in both Sociology and Data Science, as an assistant professor of Population Studies, and since July 2022, as interim director of Spatial Structures in the Social Sciences—better known as simply 54, the scholarly space for spatial research at Brown.

Mwenda’s multiple titles match his multidisciplinary interests in exploring the nexus of people, place, and environment—precisely where that interaction plays out. It’s a space that may sound abstract and esoteric, but spend a moment asking him about it and you’ll immediately discover that for him the world of GIS and spatial analysis means everything—a field where his interests in mapping, geography, global inequality and human wellbeing come together. His face lights up when he speaks about his work researching changing spatial patterns in health outcomes among vulnerable populations around the world, looking at how these patterns are influenced by environmental, climatic and socioeconomic factors.

As the principal investigator from Brown, Assistant Professor Mwenda recently wrapped up an ambitious, two-year research project to help countries around the world track and report local conditions to the UN Convention to Combat Desertification. In developing a social-sciencedriven Trends.Earth tool, the collaborative worked with multiple partners to address the serious impacts of land degradation and desertification on local residents already at risk due to climate change.

**Students see more clearly how these skill sets help them connect with what is happening in the world.**

**SUSTAINING LAND & LIVELIHOODS**

In 2022 Mwenda wrapped up an ambitious research project to develop a United Nations-backed toolkit for assessing and ameliorating land degradation and desertification due to climate change. Called Tools for Land Degradation Neutrality (tools4ldn.org), the far-reaching project was funded by the Global Environment Facility (GEF) to help countries around the world realize a key component of the UN’s 2030 Agenda for Sustainable Development.

As the principal investigator from Brown, Mwenda discovered that the multi-institutional endeavor “really took a lot of bandwidth” over the past two years as various players came together for the first time ever to tackle the devastating human toll of land degradation in a unified manner.

“Take on it as the population studies faculty member on this project was to look at the impact of land degradation on the socioeconomic conditions of vulnerable communities in affected areas,” Mwenda explains. The idea was to help UN member states integrate free and open source platforms that allow each country to monitor their progress on limiting or preventing land degradation and then report that to the UN Convention to Combat Desertification (UNCCD).

While Mwenda focused on the population side of the problem, others on the team worked to develop the Trends.Earth tool, which enables national agencies to identify and quantify where local residents are being affected by the most extreme effects of climate change and then implement measures to build resilience and safeguard against further desertification.

**TEACHING GIS PRINCIPLES & METHODS**

Whether researching a complex global project like land degradation neutrality (LDN) or helping to highlight racial disparities in early Covid outcomes in Rhode Island, Mwenda often invites students to assist with various aspects of his research.

“As a researcher I’m a health geographer,” he explains. So while much of his previous research involved looking at global spatial patterns of health outcomes related to infectious diseases or malnutrition, for instance, environmental factors clearly contribute to these outcomes (and relate to his undergraduate degree in Environmental Studies from Dartmouth). “But if you take an eagle’s eye view, I quantify and explore spatial patterns of vulnerability outcomes generally—so part of that might be about health, or human migration, or with the LDN project, it’s about people affected by climate change and things like that.”

In the few-plus years he has been at Brown, Mwenda has noticed a shift in student engagement and interests that has inspired him to adjust his own approach to teaching. “I think before the height of the pandemic, your average student was, of course, looking to learn,” he explains. “But in retrospect, he realized ・・・

**Connecting Outside of Class**

In recent years, MSDA students have taken advantage of opportunities to connect with other students and faculty...

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**From the Directors**

**David P. Lindstrom Ph.D.**
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**Social Data Analytics | INNOVATIVE RESPONSES TO A WORLD IN FLUX**

**CLASS OF ’23**

**COHORT SIZE**

**AVERAGE AGE**

**COUNTRY OF ORIGIN**

**US**

**UNDERGRAD STUDY**

BNU-HKBU United International College
London School of Economics and Political Science
New York University
Penn State—University Park
University of California—San Diego
University of Colorado—Boulder
University of Rochester [NY]
University of Virginia
University of Wisconsin—Madison

**UNDERGRAD MAJOR**

Accounting
Cognitive Neuroscience
Economics
Global Studies
Management
Psychology
Sociology
Statistics

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**FOR MORE: visit brown.edu/display/brownide—SocialData.html**
Developing a Reliable Tool for Eliciting Honest Answers

For many years, Professor David Lindstrom had been collecting and analyzing data on migration, family life and health in Mexico and Central America when he suddenly found himself wrestling with a new challenge in Africa. HIV and AIDS were ravaging local populations in southern Africa at the time and health experts worried that Ethiopia, which had very low levels of contraceptive use, would be next.

With funding from the Packard Foundation, Lindstrom was invited to partner with colleagues at several Ethiopian universities to co-direct a long-term program of training and research in reproductive health built on a longitudinal survey of adolescents. “Throughout my career I have been actively engaged in primary data collection,” says Lindstrom, who founded the MSDA program and continues to direct it. But in this case, he knew that conventional survey interview methods wouldn’t work to get Ethiopian teenagers to reveal sensitive personal information about their sex lives. So he puzzled over alternative methods for collecting reliable information from these young people that would encourage honesty while protecting their privacy.

Given the rural population the team would be surveying—in the predominantly Muslim region of Jimma in southwest Ethiopia—Lindstrom knew they needed a simple, low-tech tool that would be easily understandable regardless of literacy levels. “I first thought about using something like a deck of cards with yes, no and numerical responses that respondents could point to,” he explains. But he quickly switched to the idea of developing a larger, double-sided card divided into response cells, with one side facing the interviewer and the other facing the respondent. During the most personal and sensitive portion of in-person interviews, teens respond to survey questions by poking a stick through a hole in the center of each cell to silently select one of multiple response options.

Since then Lindstrom has published several articles and given presentations at meetings of the Population Association of America and the American Statistical Association about the efficacy of the nonverbal response card method in various studies around the world, including most recently as part of a survey of violence and post-traumatic stress disorder in Burundi. He continues to advocate for incorporating nonverbal response cards in eliciting accurate information about especially sensitive subjects, which are notoriously susceptible to social desirability bias (the tendency of respondents to try to make a good impression on the interviewer in the context of a face-to-face interview). Over the years, he has discovered that “the method can also be used to detect and understand which attitudes and behaviors are stigmatized in any given culture or situation,” he says.

With a lifelong affinity for Latin America, Lindstrom has also been heavily involved in research in Mexico and Guatemala since the 1980s, when he was still a doctoral candidate at the University of Chicago. He recently took over as co-director of the Mesoamerican Migration Project (MMP) and the Latin American Migration Project (LAMP), two long-running efforts that have generated huge database surveys for exploring migration in the Americas. In addition, he serves as a co-investigator on a survey of Venezuelan, Nicaraguan and Haitian migrants in major destination areas in Colombia, Costa Rica and Chile, as well as a consultant on a survey of Venezuelan, Cuban, Dominican and Peruvian migrants in Uruguay.

This spring Lindstrom is making use of his strong connections in the region to take students in his Migration in the American class to Mexico City for a week of immersive learning. “Often, the data that exist about human behavior are not straightforward,” the professor explains. “People are clustered within households, schools, neighborhoods or workplaces, and we need methods that allow us to account for the greater similarity of people who share environments.” In this course, students explore topics such as random effects, fixed effects and growth models, among others, and produce a final empirical report with data of their own choice.

By understanding basic statistical concepts and techniques, students become informed consumers of both popular media and scholarly knowledge. Jackson often inspires her students to continue on to Statistical Methods for Hierarchical and Panel Data, a more advanced elective on the challenges of analyzing complex data with clustered units. “The data that exist about human behavior are not straightforward,” the professor explains. “People are clustered within households, schools, neighborhoods or workplaces, and we need methods that allow us to account for the greater similarity of people who share environments.” In this course, students explore topics such as random effects, fixed effects and growth models, among others, and produce a final empirical report with data of their own choice.

By understanding basic statistical concepts and techniques, students become informed consumers of both popular media and scholarly knowledge. Jackson says, adding that they also graduate “better equipped to enter any profession.”

MULTIVARIATE STATISTICAL METHODS I

Media coverage of everything from healthcare concerns and the effects of globalization to training presidential elections and police brutality is increasingly saturated with the use—and misuse—of statistics. In addition, statistical techniques play a central role in seemingly disparate fields, including research, marketing, medicine, tech and public service.

As the first required statistics course for grad students in both the MSDA and PhD programs, Multivariate Statistical Methods I offers an intro to the use of statistical methods in social research. “I teach the course as an applied introduction to statistical concepts and multiple regression for sociologists,” explains Professor Margaret Jackson. Students learn to work with data, select appropriate statistical methods and interpret results from a variety of sources. "I encourage students to think clearly about what they want to achieve with their analysis, and how they can use the findings to make a contribution to important social issues," she explains. By the end of the course, students have a strong understanding of how to use statistics to answer important social questions.
Natural Transitions

Many students who enter the program are looking for a different attitude—Koo says—“one in line with the mindset” to being in school. “They took it at least a few years of post-college work and efficient way.” She also appreciated that sociology work I had done as an undergrad but had gravitated towards other courses that were more seriously, so that was a great transition for her. For Koo, her position as an entrepreneur is a “perfect fit for what she learned in the master’s program. “It’s what I had envisioned myself doing,” she says. “I was never strong with numbers so doing all the data science work gave me a lot of confidence.” Now, I don’t analyze data on a day-to-day basis but I have to think about it a lot in terms of how to use and communicate it in a meaningful way and how to translate it into tangible business improvements.

With two degrees from Brown and the hard skills from the program, you stand out.

Jamilia Gilmore BA ’18/ScM ’19

“Being True to Yourself”

For recent MSA graduate Yue Zhao ScM ’18, coming to Brown just months after graduating from Shanghai University, “the throughline is that I wanted to do something I’m good at,” she says, “and not just numbers, screens and the Internet.” To do that, she took on a research position in the field of quantitative and qualitative areas” of social data analysis.

2017, Zhao immediately noticed a distinct orientation in statistics and social science research—preparation for a role in statistical analysis and data mining. Still, she simply felt “motivated to work really hard since everyone around me was crazy talented.” That proved to be the key in the next three to five years with the goal of going into consulting. “I know that getting an MBA will open the door to career opportunities,” she says, while half-jokingly bemoaning the fact that Brown doesn’t offer advanced business degrees.

Whether deciding on where to go to grad school or planning for a longer-term future, Zhao believes that self-knowledge is key. “You have to have faith in your passions, your talent, your personality, and your values,” she says. “I always encourage people to listen to their hearts rather than just the people around them. If you don’t, you’ll end up changing your path. For me, knowing myself is really important. It makes me feel like I’m independent. I know what works for me, what’s best for me, and that’s an expert when it comes to knowing myself.”

Brown taught me how to learn. I feel like the skills I learned can apply to anything else, wherever I am.

Yue Zhao ScM ’18

Being True to Yourself

This program was exactly what I was looking for.

Jennica Koo BA ’19/ScM ’20

For Jennica Koo BA ’19/ScM ’20, the decision to continue on at Brown to earn a master’s degree in data analytics made perfect sense. Both had good experiences as undergrads but also felt the need for more grounding in methodology—to build on the theory-based world of reading and writing that had drawn them to the field to begin with by adding practical experience with data analysis, both quantitative and qualitative.

A good fit for where she was coming from as a “low-income college student. Still, by senior year she didn’t really know what she wanted to do next. “I had that theoretical foundation,” she says, “and wanted to learn more about methodology and get experience with quantitative data,” so doing the master’s program made sense.”

SATISFYING WORK

Both Koo and Gilmore landed their first jobs while still in the program and were so thrilled with the freedom and level of responsibility they were given so early on in their careers that they stuck with them for another year or two after graduation—Koo wearing all black, Gilmore in a “perfect fit” for what she learned in the master’s program. “It’s what I had envisioned myself doing,” she says. “I was never strong with numbers so doing all the data science work gave me a lot of confidence.” Now, I don’t analyze data on a day-to-day basis but I have to think about it a lot in terms of how to use and communicate it in a meaningful way and how to translate it into tangible business improvements.

After almost three years of working for MetrixLab recruiting her to be a qualitative research manager, and working almost anywhere. “I don’t feel that hard skills from the program, you stand out, “she says.

Based in Atlanta—her hometown—Gilmore now works as part of a team of 10 “really wonderful people” doing research for major commercial clients. “I’m still doing a lot of in-depth interviews and focus groups,” she says, but she’s also overseeing online mixed-methods that she finds “kind of cool”—like five-day discussion boards with 10–20 people who respond to prompts. “We also do these very quick qual/quant hybrids where you take 10 people for an hour, show them a commercial, then ask these questions that they respond to in real time” before the group votes on each other’s responses.

This job is definitely lighter on the brain” than her previous position, Gilmore admits. “But I do find what I do to be interesting. I get to work on so many topics—from durable medical equipment to understanding race in the Quinault Nation in Washington state.”

Koo is equally pleased with where she has landed. “I’ve found my niche and am so happy with the place I’m at,” she says, adding: “I go to own so much, and feel very lucky to have such kind bosses.”

As Gilmore reflects on her years at Brown, she says that even though she wasn’t sure what she wanted to do she was doing it, “the throughline is that I wanted to do something with people, just talking to people and figuring out what’s going on in their lives, what they want, and how to improve things.”

Given that abiding interest, she sees herself eventually gravitating towards work in human resources—“doing internal research to assess how employees experience their workplace and helping to make it better.”

This was exactly what I was looking for,” Koo says—“one in line with the sociology work I had done as an undergraduate but introducing more mathematics, showing how to put theories and numbers together, to understand social data and end up in that in a very concrete and efficient way.” She also appreciated that because most of the students in her cohort had at least a few years of post-college work experience, they brought “a different attitude—Koo says—“one in line with the mindset” to being in school. “They took it at least a few years of post-college work and efficient way.” She also appreciated that sociology work I had done as an undergrad but had gravitated towards other courses that were more seriously, so that was a great transition for her. For Koo, her position as an entrepreneur is a “perfect fit for what she learned in the master’s program. “It’s what I had envisioned myself doing,” she says. “I was never strong with numbers so doing all the data science work gave me a lot of confidence.” Now, I don’t analyze data on a day-to-day basis but I have to think about it a lot in terms of how to use and communicate it in a meaningful way and how to translate it into tangible business improvements.

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