DATA FIELD: Mike Lyons '88S (MBA) will help bring a more data-driven approach to the Buffalo Bills' game and business strategies as the head of the team's new analytics department.

Game Changer

Mike Lyons '88S (MBA) will never forget January 3, 1993.

The lifelong Buffalo Bills fan sat slumped in the stands of what was then Rich Stadium, his spirits dashed as halftime descended on his beloved team, already down by 25 points in a mild-weather matchup against the Houston Oilers.

Friends were packing up their seat cushions and coolers, sparing themselves the slow torture of a certain loss and bemoaning a sorry end to the regular season. They indulged in a little lighthearted heckling of Lyons and his cockeyed refusal to throw in the rowdy rag.

"Oh, they said I was out of my mind," he recalls. "But I was an optimistic Bills fan then, and I still am today."

Such stalwart support has had its rewards. Staying in his seat that day, Lyons watched as the Bills staged a history-making comeback—still the biggest single-game turnaround for a team in the NFL.

But for the past 15 seasons, the team has failed to make a playoff appearance, and Lyons hopes to be in on the start of a bigger turnaround. He has parlayed his passion for the squad into a head-office position that he calls a "dream come true."

Named last November as director of the Bills' first analytics department, he will collect and use data points from both the business and sporting sides of the franchise to optimize the team's decisions on everything from draft choices to fans' experiences to the performances of each player—all with the goal of increasing the team's tally of wins.

Call it a career Hail Mary, Lyons's opportune, why-not-give-it-a-shot vie for the job. His sister, Brigid Maloney, an attorney living in Buffalo, caught last year's press conference during which team president and CEO Russ Brandon announced plans to create an analytics department—a move growing in popularity across the NFL, with about a third of the league's teams by then already employing a more data-driven approach to team management.

Maloney knew, as head of such an effort, her brother could put to use the considerable information management skills he'd been honing the last 26 years at Xerox.

"I didn't think this kind of job existed," Lyons says.

Much of Lyons's work will be done ahead of, rather than during the games, and he'll travel with the team only occasionally. And he need not fret about stepping on any cleats; he'll present objective

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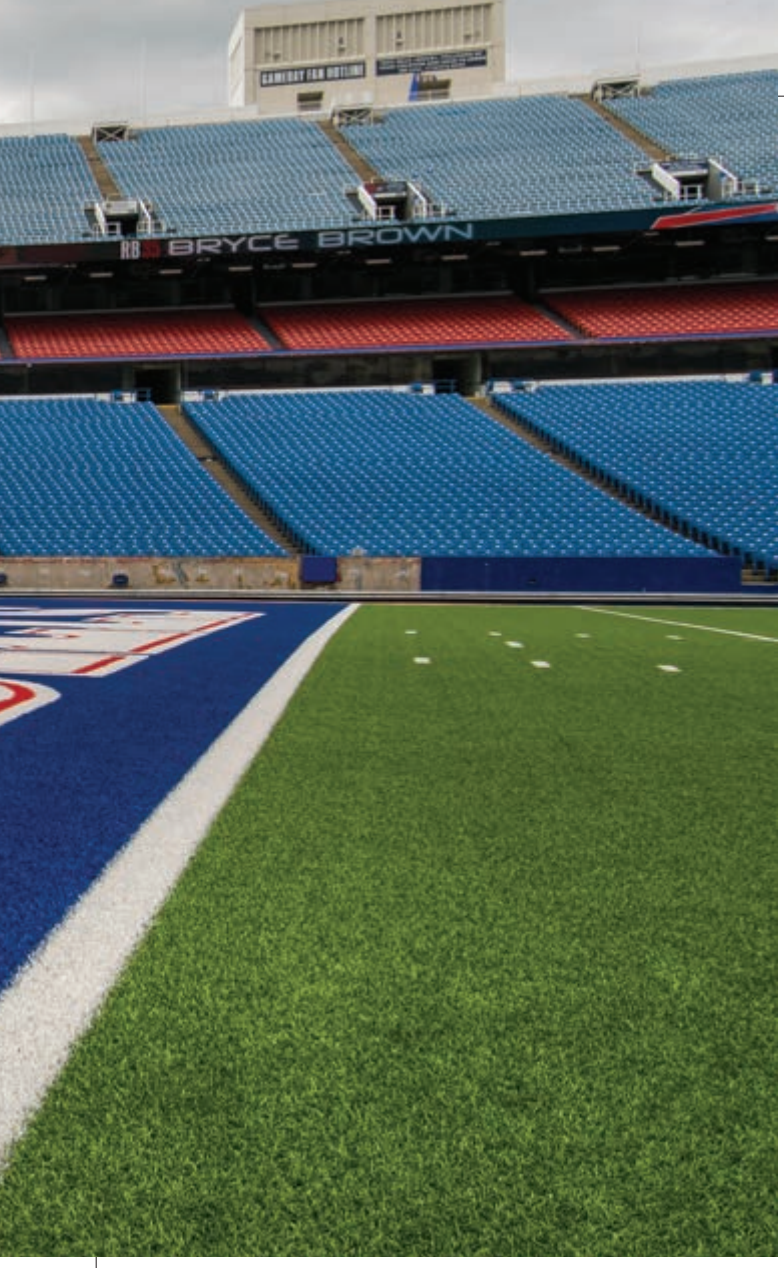

JOE GIRON

analyses to the coaches, who will then make the delicate decisions about whether and how they're applied on the field.

"Rather than using simple observations, we're able to quantify characteristics," he says. "It's just a better way to understand likelihoods."

Lyons, who earned a bachelor's degree in molecular engineering at MIT before pursuing an MBA at Simon, hasn't missed a Bills home game since 1989. And while the team last made the playoffs in 1999, he remains an undaunted optimist. Unlike that lonesome halftime two decades ago, these days he's hearing the cheers of his friends and family, including his wife, **Christine** '93 (MS), '99S (MBA), daughter, Chelsea, and sons, Nate, Rochester freshman Zach, and Luke.

"Their eyes lit up," Lyons says, remembering the moment he told his boys what their dad would be doing for a living.

Squad system analyst Peter Linton, who makes up the other half of the team's analytics department, says his new colleague's kids have good reason to be proud: Lyons's addition to the roster strikes a robust balance for the Bills of brains and brawn.

"Mike knows how to get out of the data what nobody has before," Linton says. "It's just a great thing to do what you love and to see it manifest on the field." —MELISSA LANG

Poker's Newest Face

Professional life began typically enough for **Jonathan Dimmig** '05, '06S (MBA). After earning two degrees at Rochester, he returned to his native Buffalo to take a job as a financial analyst. For 10 years he worked in the field, while pursuing a hobby he'd been introduced to by one of his roommates at Rochester: poker.

In 2012, Dimmig took a dramatic step. He left his job and moved to Las Vegas to make a go of it as a professional poker player.

"It was obviously a big risk," he says.

And a worthwhile one, apparently. In June, he prevailed over nearly 8,000 competitors around the world to win the six-week-long 2014 World Series of Poker—and take home more than $1 million in winnings.

A lifelong hockey enthusiast and diehard fan of the Buffalo Sabres, Dimmig says the World Series of Poker is "like the Stanley Cup"—except in this contest, a Buffalonian came out on top. About 15 of Dimmig's friends traveled to Vegas to watch him play at the final table, where he wore a Buffalo Sabres shirt with pride.

According to Alex Weldon, a game designer and poker player writing on the website pokerforums.org, "Dimmig came out on top of the second largest field in live poker history." Yet, "Dimmig would not have been anyone's pick when the final table first kicked off."

He began the final table in sixth place. Moreover, while the final table is called the "Millionaire Maker," Dimmig, a relatively young player, had never won more than five figures.

Dimmig says his poker prowess comes down to math.

"It's a heavily math-based profession. So if you don't have a background in math, you're at a slight disadvantage. At Simon, they definitely teach you a math-based approach to solving problems. So that approach has given me a leg up on the competition."

Las Vegas is the world's center of professional poker. But London is another hot spot, and Dimmig hopes to travel there and elsewhere in Europe to play.

"Looking forward from a poker perspective," he says, "I definitely want to play in some more tourneys. But one of the things I'm most looking forward to is, I'm actually writing a book."

"I have no background in writing whatsoever," he says. But he had an unusually vivid dream, and it became an idea for a novel. He's completed several chapters. "I think it can be very successful," he says. —KAREN MCCALLY '02 (PHD)

WORLD CHAMPION: Dimmig won the World Series of Poker, the ultimate poker competition, in Las Vegas in June.

SMOOTH SAILING: Bertsch, a competitive balloonist, won the women's national championship title in August. She competes in Poland in September.

Where the Wind Blows

Growing up in Indianola, Iowa, **Christine Bertsch** '00 was entrenched in the world of ballooning. A town of about 15,000 residents, located in central Iowa just south of Des Moines, Indianola is host to the annual National Balloon Classic, as well as home to the National Hot Air Balloon Museum and to the U.S. Ballooning Hall of Fame.

"I started crewing when I was seven," says Bertsch. Accompanying a pilot, reading data off a computer, she was captivated by the experience of being in the air. "It was very peaceful," she says. "The only noise you heard was the burner."

After graduating from Rochester, she returned home, earned a balloonist's pilot license, and began ballooning competitively. This summer, she rose to new heights, winning the women's national champion title at the 2014 U.S. National Hot Air Balloon Championship in Longview, Texas.

For the uninitiated, Bertsch explains that balloon "races," as they're called, aren't a test of speed, but of accuracy. Balloonists follow a course consisting of several on-the-ground targets. The goal is to fly over the targets, dropping a beanbag at each one. Points are assigned depending on how close each bag comes to its target.

In the four-day Longview competition, rainy weather caused delays and overcast skies made flying a challenge. Balloonists are required to stay below the clouds. "If there's a wind direction that you want above the clouds, you can't go through the clouds to get it," Bertsch says. "You have to plan your flight to always be below the clouds."

Guiding a balloon under any set of conditions is a complex task that Bertsch calls "an art form."

"We don't have a steering wheel. All we have is the wind. It's an art form to be able to find the right winds."

Like all artists, she works with a few tools. Her balloon's basket is outfitted with two altimeters—one to measure height above sea level and another to measure height above ground level—a variometer to measure vertical velocity, and a GPS.

Then there's the balloon itself. Bertsch calls hers *Champagne Supernova*, after a 1996 hit by the band Oasis. She designed it herself, drawing up the plans on computer-aided design software. There are two types of balloons—balloons designed for recreational flying and those designed for racing. Hers is a racing balloon. "Racing balloons are a new trend," she says. "They're very slender, allowing you to go up and down extremely fast."

Bertsch says her balloon can take her up or down nearly three times as fast as a recreational balloon—as far as 1,800 feet a minute.

It's enough to make even a spectator dizzy.

"I won't lie," she says. "I've thrown up before."

To obtain her flying license, Bertsch took the same ground school course required to become a private or commercial aircraft pilot. She learned about aerodynamics, weather, navigation and instrumentation, and Federal Aviation Administration regulations. The FAA administered her in-air test. The process was rigorous, but not especially difficult for Bertsch, who earned two separate degrees in her four years at Rochester—a bachelor of science in biomedical engineering as well as a bachelor of arts in English.

These days, she teaches engineering at Indianola High School. After working as an engineer for a private company, Bertsch says "I had the opportunity to teach and thought it would be a great way to get more students excited about engineering."

In September, she'll miss a few days of school as she travels to Leszno, Poland, for the first ever Women's World Championship. "It's like our version of the Olympics," she says.

—KAREN MCCALLY '02 (PHD)

STEVE POPE/AP IMAGES FOR *ROCHESTER REVIEW*

Sportswear With Zip

Modern athletic apparel incorporates some fairly high technology—usually in the form of sophisticated fabrics engineered to keep the body warm in the cold, cool in the heat, and dry year around. But one feature of sportswear—the zipper—has remained virtually the same for more than a century.

That may change. This summer, the popular sportswear manufacturer Under Armour began to roll out clothing outfitted with "MagZip"—a magnetic zipper, operable with one hand and minimal dexterity, invented by engineer **Scott Peters** '01, '02 (MS) with design help from his friend Dave Lyndaker and guidance from his mother, Nancy Peters, an occupational therapist.

Peters came up with the idea watching his uncle struggle with a standard zipper. His uncle has myotonic dystrophy, a degenerative muscle disease. MagZip features a unique catch design, and the ends of the zipper are magnetic. "They pull together and lock together," Peters says. "If you're standing up and the zipper is straight, you can essentially pull" with one hand.

The three partners filed for a patent, formed a company called DNS Designs, and approached "about a half dozen" companies, Peters says, before Under Armour approached them. "They'd been looking at doing some innovative zipper work. So they were out there searching patents on the Internet," Peters says of the company.

The magnetic zipper has advantages for all kinds of users, including users wearing bulky gloves or carrying items.

DNS Designs is only one of Peters's enterprises. After earning his bachelor's and master's degrees in chemical engineering, he worked for Intel, General Motors, and Progressive Machine and Design, doing processing and manufacturing engineering, before founding Construction Robotics, in Victor, New York, outside Rochester.

For now, DNS Designs is his part-time gig. But while MagZip is exclusive to Under Armour sportswear for the time being, Peters has begun working with other companies. "We continue to develop ideas on the side," he says. R

—KAREN MCCALLY '02 (PHD)

RE-OUTFITTED: Thanks to Peters's magnetic zipper, wearers of some Under Armour sportswear will be able to zip with one hand.

ADAM FENSTER

Network News

What's at stake in the debate over net neutrality?

Interviews by Kathleen McGarvey

Since its inception three decades ago, one of the hallmarks of the Internet has been its openness. But as traffic has grown and demands for broadband speed have increased, the issue of "net neutrality"—that all traffic on the Internet should be treated the same—has become a matter of public debate. Last winter, an appeals court ruled against Federal Communications Commission (FCC) regulations that protect net neutrality. In response, Tom Wheeler, commissioner of the FCC, in May made public a plan, still under discussion, that prevents Internet service providers (ISPs) from blocking websites but also allows for a "fast lane" to which companies could buy access to ensure speedy delivery of their content.

The FCC collected more than a million online public comments on net neutrality over the summer.

Two Rochester alumni who are experts in technology share their analyses.

Dikran Kassabian '92 (MS)

Senior technology director at the University of Pennsylvania

Preserving the ability to innovate is what's at stake. Columbia Law Professor Tim Wu, who coined the term "net neutrality," likes to say that net neutrality lets anyone with passion and creativity take their shot, opening a business on the Internet where small start-ups can compete with major corporations.

Think about it. At one time, Google was a start-up competing against AltaVista from Digital Equipment Corp., the dominant web search engine at the time. If Google gave better results, but those results were slow to be returned because Digital had somehow purchased faster or better access, or because ISPs were slowing or blocking Google responses, then Google might never have made it. As consumers, we want competition, and we want the best ideas and technologies to win in the marketplace.

Today the interesting example is probably Netflix. While Netflix once competed against your local video rental store, today they more often compete against on-demand access from your local cable TV company. But that cable TV company is quite likely to also be your home broadband ISP. We want to be very careful here. On the one hand, we don't want to over-regulate, and we want to let home broadband ISPs manage their networks—and even offer commercially viable services, perhaps including expedited network traffic. At the same time we have to recognize the risk to Netflix and others in this situation. It isn't hard to imagine situations in which the business arrangement is too expensive to be practical to young start-up companies or in which a lack of competition results in the broadband ISP wielding undue influence. Would we want the broadband ISP, especially if it were the

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only game in town, to be permitted to slow Netflix traffic in favor of its own on-demand offering?

The FCC proposal for allowing "fast lane" business arrangements is probably the key net neutrality question right now, and unlike some net neutrality advocates, I think it probably can be compatible with net neutrality. In fact, in 2010 I argued in favor of fast lanes as long as the ISPs were transparent about such arrangements, as long as they were available to all and reasonably affordable, and as long as adequate competition existed. It's that last point that has me concerned in 2014. With greater home broadband ISP market-share held by a small number of players, competition is reduced. The small number of providers could conceivably have disproportionate influence.

If there were more competition in the home broadband ISP space, no single ISP would be in a very strong position to demand expensive traffic handling arrangements from the companies that provide application services on the Internet. That would be a built-in check in the system. Lacking competition, I think the risks we are discussing here are amplified. These are certainly interesting times for the Internet.

Tracy Beth Mitrano '81

Director of the Institute of Internet Culture, Policy and Law at Cornell and principal of Mitrano and Associates, a consulting firm for higher education and information technology

The good news is that this is now a conversation that consumers and citizens are willing to have. Net neutrality used to be a specialist's term. The not-so-good news: it's a difficult concept because it involves technology, business models of somewhat different industries—Google, Facebook, communications companies—and what the public wants the Internet to be, which is open, accessible, and free. And it's caught up in an area of law that's translucent at best.

I support Commissioner Wheeler's recommendations, which include "fast lane" provisions and also net neutrality rules. And here's why: right now there are no net neutrality rules. There have been two significant cases, and they've established pretty clearly that the FCC may not, with its current degree of authority, impose net neutrality rules on companies. So what I see Commissioner Wheeler doing is creating a Solomonic response to the current situation.

The fast lane is more about the financial relationships between communications companies and the new Internet giants, such as Netflix, Facebook, and Google. It has been misinterpreted, I think, to be about a slow lane for consumers. I am not so sure about that as an automatic conclusion from the basic concept; moreover, were that to be the case, it is what the net neutrality rules counterbalance. There is also a question about who's going to pay for the infrastructure. The United States now ranks about 31st internationally for broadband service. If Internet giants begin to pick up some of that cost for deployment, I am OK with that.

Finally, social policy should be developed to remove the obstacles to accessibility. We did that for electrification and telephone service. And here's where people say we don't want to classify the Internet as a public utility with those regulations. But why confine ourselves to 20th-century categories? Congress should be creating a whole new communications law, with an understanding of the Internet as a new cultural phenomenon that requires new law to conform to its potential, not restrain it.

Mitrano is working on a book titled Culture, Law, and Politics of the Internet 2.0: Communications, Commerce, Content, and Communities in 21st-Century Cyberspace.

HYUNSOO LEO KIM FOR *ROCHESTER REVIEW*

LOOKING FORWARD: Hansen is headed to Stanford to develop a model for profitable digital versions of regional newspapers.

Getting in the Tablet Habit

Recent years have not been easy ones in the newspaper business, but for journalist **Louis Hansen** '89 those challenges simply underscore the need to find ways to keep regional papers profitable and engaging—because they are critical to their communities, he says.

That's why he'll spend this academic year at Stanford, as a John S. Knight Journalism Fellow, developing a model for regional papers to produce afternoon tablet publications with exclusive content.

"The irony of online news and online publications is that more people are consuming the work that daily newspapers do, but newspapers are making less money," Hansen says. That's because advertising, more than subscriptions, is where newspapers have found their profits, and as advertising has migrated online, it has brought less revenue than print advertisements once did.

Last August Hansen's paper, *The Virginian Pilot*, launched an iPad equivalent of an evening paper, for which Hansen is an enterprise and investigative reporter. While most papers have tablet apps, they're really a recreation of their website. What the Norfolk, Virginia, paper was doing was unique at the time of the launch: "We were delivering stories you wouldn't find anywhere else in our publication," says Hansen.

And the stories found in regional papers are news covered nowhere else, he says. When it comes to city councils, local government, and other regional institutions, newspapers are still the source for investigative journalism and other long-form, quality writing. Through his Knight fellowship, Hansen—who was once sports editor at the *Campus Times* and earned a master's degree in journalism from NYU—is hoping to develop a model for other newspapers to follow. He'll take classes at Stanford in business, design, and other departments to find ways to make tablet publications work better. His goal is to help newspapers publish profitably on tablets and to produce quality journalism that appeals to readers, serves the community, and supports the newspaper.

"I hope it's something practical," he says, "something that really can help improve what newspapers do."

—KATHLEEN MCGARVEY