



Futurama Drama

Computer scientist David Lu '07 (T5) uses theater to explore the evolving relationship between humans and robots.

By Sofia Tokar

David Lu '07 (T5) has not yet seen *Westworld*, HBO's hit television series in which android hosts populate a Wild West-themed park and cater to the whims of human guests. Lu's omission is notable, given his billing as chief robot programmer in the spring 2015 theatrical premiere of *Sky Sky Sky* by Liza Birkenmeier.

The play, like *Westworld*, raised questions about artificial intelligence, hu-

HUMAN TOUCH: Roboticist David Lu '07 (T5) helped program *Harris T. Robot*—a central figure in the play *Sky, Sky, Sky* (above, in a scene with actress Nancy Harris)—as part of his PhD work on how robots interact with people.

man-robot relationships, agency, and autonomy. But unlike the TV show—which features human actors playing robots who think they are humans—one of the play's main actors was, in fact, a robot.

Dubbed Harris T. Robot, it was a PR2 model, a common robotics research platform that runs on the open source robot operating system (ROS) and is used by countless industries, universities, and companies. About five feet tall, weighing 400 pounds, and with two arms, PR2 is not exactly Anthony Hopkins. Still, Lu believes that the performing arts, especially theater, offer a way to explore the potential to enhance human-robot interactions using current robotics technology.

“With theater, we can construct controlled scenarios and put the robots in, al-

lowing them to participate in much the same way human actors do,” he says. The job of professional actors, after all, is to convince others that they are something they're not. Using acting techniques, might robots convince people that they are social, or even conscious?

“If I'm in a production of *Hamlet*, I can't actually change myself into Hamlet. But I can do everything in my power to make my actions look consistent with those of the Prince of Denmark,” says Lu. Maybe it's the same thing with robots. “We can't get robots to be real, human-like, emotional creatures, but within the scope of theater we can have them perform actions that make it seem to the audience as if they are.”

Sky, Sky, Sky was the result of a six-year collaboration between computer scientists

and performing artists (including the play's director, Annamaria Pileggi) as part of Lu's PhD work on contextualized robot navigation at Washington University in St. Louis. Set in 2061, it centers on a character named Joan, an older woman who suffers a heart attack and needs the assistance of a robot as her medical caregiver.

Lu believes there is also something special about using real robots in live theater, as opposed to digital droids or actors playing robots on screen. "The fact that it's a chunk of plastic with whirring fans and flickering sensors—that part gets a visceral response from the audience."


Understanding that response is a key part of Lu's current work as a roboticist at Bossa Nova Robotics, a Pittsburgh-based start-up that specializes in building robots that work around people. Lu programs robots that scan the shelves of large grocery and retail stores to track what's out of stock.

"Like the theater work, it's all about how people perceive the robot," he says. "This robot is in a store with people who had no idea they were going to see a robot that day. Every move that robot makes is going to have broad implications for what people think of robots from then on."

Most robots, for example, are programmed to get from point A to point B in the most efficient manner, even if there's a person in the way. Whereas humans understand the concept of personal space, most robots are not concerned with such decorum. Lu's work entails programming robots with contextual information to improve human-robot interactions. "The idea of being able to help shape people's impressions of robots is really what drives me," he says. "I want people to not be afraid of robots. They're completely harmless."

Could Harris T. Robot be a gateway to Wall-E, Skynet, or other fictionalized versions of self-aware artificial intelligence?

Lu demurs. "There's no greater intelligence in these robots. I might personify my robots, but I'm under no false pretenses about their abilities."

Instead, when it comes to robots like PR2, Lu likens himself to a stage parent: "I'm not the one on stage, but I am making sure that [the robot] does well—and when it screws up, that reflects on me. But if it succeeds, then I can sit back proudly." 



PENNSYLVANIA'S 50TH: Josh Shapiro '95 (right) takes the oath of office as Pennsylvania's 50th attorney general while his wife, Lori, and children, Sophia, Jonah, Max, and Reuben, look on.

Taking the Oath

Alumni are sworn into new elected offices this year.

Josh Shapiro '95

Pennsylvania Attorney General

A native of Abington, just outside Philadelphia, **Josh Shapiro** '95 has moved steadily upward to higher and higher offices since his first election, as a member of the Pennsylvania House of Representatives, in 2004. In January, he became the 50th attorney general of the state of Pennsylvania.

Shapiro served three terms in the legislature representing the district that includes his hometown. Then, in 2012, he sought and won election to the Montgomery County Board of Commissioners. A Democrat, he defeated Republican State Sen. John Rafferty, whose district includes parts of Montgomery County, in last November's race for attorney general.

A political science major at Rochester, Shapiro got his first taste of legislative politics as a participant in the political science department's Semester in Washington program. That experience led him to return to Capitol Hill after graduation, where he eventually became the chief of staff to Rep. Joe Hoeffel of Pennsylvania.

Tony Vargas '08

Nebraska State Senator

In January, about the time he was taking the oath of office as a Nebraska state senator, **Tony Vargas** '08 was also accepting an award from the Omaha Jaycees as one of Ten Outstanding Young Omahans. The award, which honors community service and professional development, underscored the growing importance of Vargas, a native of New York City, in Nebraska's largest city.

The son of Peruvian immigrants, Vargas studied psychology at Rochester and gained research experience in the lab of Jack Werren, the Nathaniel and Helen Wisch Professor in Biology. He began his professional career teaching science in a New York City public school for Teach for America. His work with the nonprofit led him to Nebraska, where he worked on teacher support and development for Teach for America, before becoming a policy analyst for an Omaha educational consulting firm and a member of the Omaha School Board. Last fall, he accepted a new position, which he retains while serving in the senate, as marketing and communications director for Omaha Healthy Kids Alliance.

A Democrat, Vargas defeated Republican challenger John Synowiecki last November. Vargas is the only Latino serving in Nebraska's unicameral legislature.

Mary Beth Walsh '87

New York Assemblywoman

Mary Beth Walsh '87 is a lawyer in private practice, where her work has been focused on advocating for children in Family Court. Before winning a seat in the New York State Assembly in November, she served on the Ballston Town Board and as assistant Saratoga County attorney. A specialist in municipal as well as family law, she's also a board member of the Saratoga County Industrial Development Agency.

Walsh, a Republican, defeated Democratic challenger Michael Godlewski, also a family attorney, in November.



Breaking News, Making News

It's a 'golden era' in broadcast news, says Tommy Evans '99, London bureau chief at CNN International.

By Sofia Tokar

As a child in Thailand and India, **Thomas (Tommy) Evans** '99 thought about working for the United Nations when he grew up. But instead of the UN, Evans found his calling at another global organization: CNN, one of the world's leading producers and distributors of news media. "I always wanted to do something international," he recalls, "but never really considered journalism."

Evans visited the River Campus in February, where he met with students, faculty, and administrators, and lectured at the Humanities Center on the global view of the 2016 American presidential election.

With an eye for photography and an interest in politics, Evans double majored in studio art and political science at Rochester, before earning a master's degree in international politics at London's School for Oriental and African Studies. He was living in New York City and working at CNN as an associate producer when the September 11 attacks took place.

"Suddenly, my master's dissertation,



OPTIMISTIC OUTLOOK: "I'm an optimist who thinks this is a golden era and an exceptionally creative time in the industry," says Tommy Evans '99, the London bureau chief at CNN International, who met with students (above) and others while on campus this winter.

which focused on terrorist political theory, became pertinent to what everyone was covering,” he says.

“Everyone” included Evans, who covered the aftermath of the attacks, and would go on to cover other major stories, such as the “7/7” bombings in Central London and Hurricane Katrina, both in 2005. He was developing as a journalist, something he credits to good mentorship.

Among his mentors was CNN anchor Anderson Cooper, whom Evans respectfully dubs one of the “drill sergeants in my journalist’s boot camp.”

In 2006, Evans moved to Baghdad to cover the war in Iraq as a field producer. He spent the next five years living in the city—as opposed to the Green Zone, the center of the city’s international presence—and working with correspondent Michael Ware and dozens of Iraqis. He was regularly embedded with coalition forces. “You have to be willing to take professional risks and leave your comfort zone,” he says. “I think my career has benefited greatly from this mentality.”

Today Evans is vice president and the London bureau chief at CNN International, which broadcasts news abroad while also supplying international content for CNN’s domestic outlets. He oversees the award-winning news operations across Europe, the Middle East, and Africa.

“My newsroom is like a little United Nations. There are people from everywhere and they speak something like 40 languages,” he says. “We have an amazingly diverse staff and audience.”

His team has a wide variety of reporting and storytelling technologies available, too.

“There are doom-and-gloom people who say social media and digital technology are killing traditional TV news. I’m an optimist who thinks this is a golden era and an exceptionally creative time in the industry. We have the freedom to tell stories the best way, not necessarily the way it’s always been done.”

He’s particularly proud of his team’s coverage of the migrant and refugee crisis in Europe. “Telling that story wasn’t just our job—it was the right thing to do.” His team ended up winning an Emmy Award in recognition of their outstanding reporting.

But the network has had its critics. President Donald Trump, for example, has sometimes singled out CNN when he thinks the network has reported “very fake news.”

Evans says that CNN’s reporters are doing what the media are supposed to do: setting (and keeping) the factual record straight. “We’ll continue to take him to task when he says things that aren’t true.”



WATER & LAND: As a Fulbright Scholar in India, Goodine will use photography and other media to explore the tension between modern land and water use and ancient traditions.

THE ARTS

Picturing Land and Water

Over a 30-year period, **Linda Adele Goodine** ’80 has developed a national and international reputation for her performative photography—work that draws on her training not only in photography, but also in installation art, dance, video, and sound art.

Goodine has been awarded a Fulbright Scholarship to India to complete a photographic series exploring the tension between modern land and water use and ancient culture and tradition.

Over a two-year period, Goodine will record in still photography, sound, and video the transition from the dry season to the monsoon season at the junction of the Alaknanda and Bhagirathi Rivers.

Her latest project flows naturally out of previous bodies of work reflecting on the manipulation of the natural environment in the service of commerce. Works such as *The Baler* (above, right), carried out in New Zealand, explored “the remaking of the contemporary material world through the metaphor of sustainable farming.” *Perigee Moon* (top) was part of a series recording environmental



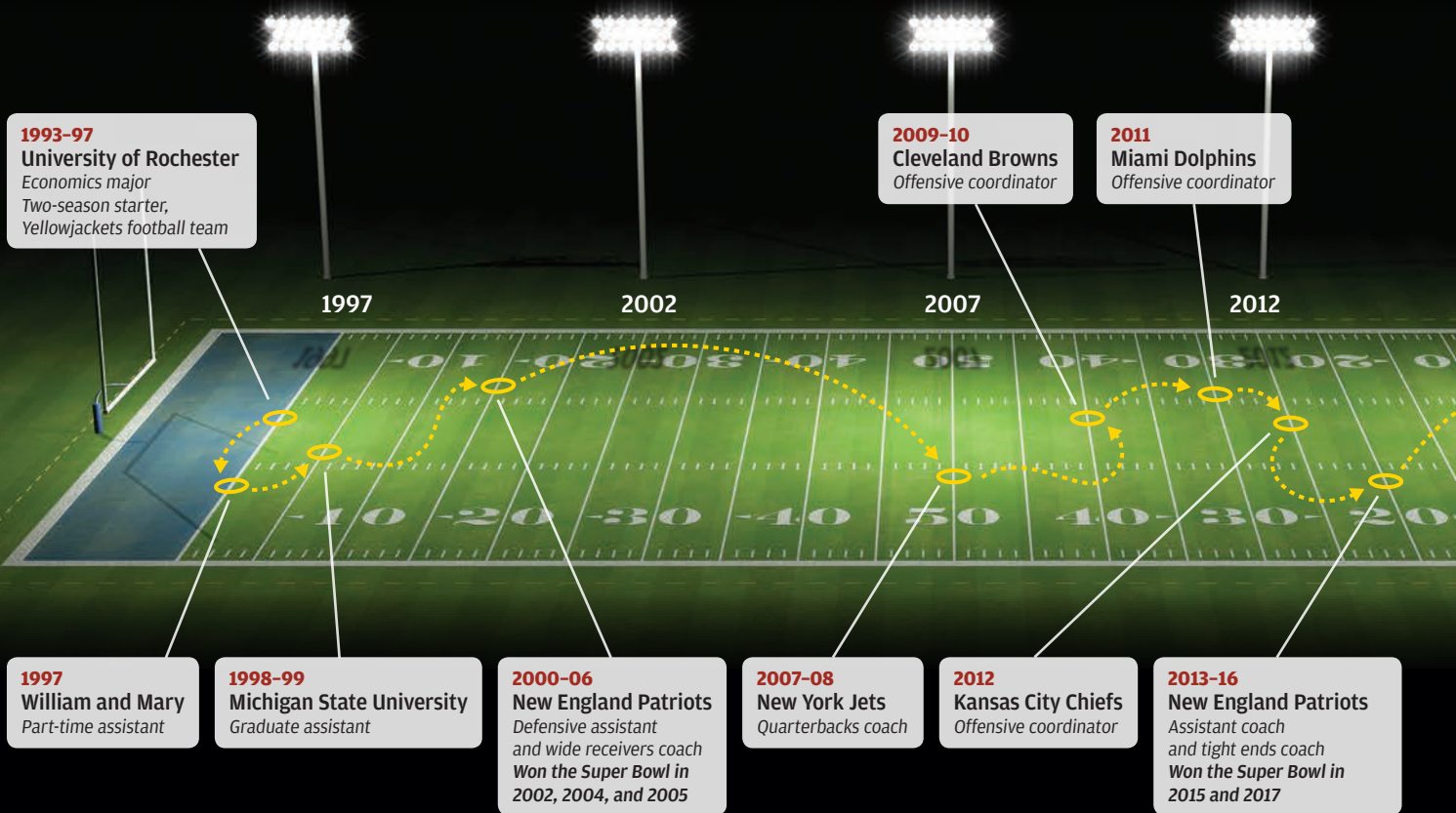
change in the Florida Everglades that Goodine—invoking Henry David Thoreau—says has resulted in “an erosion of modern man’s fantasy and search for an ideal nature.”

Goodine, who studied with the late photographer Roger Merten at Rochester, spent 25 years at Indiana University/Purdue University’s Herron School of Art and Design—where she last held the title Chancellor’s Professor of Art—before being named the Carol Grotnes Belk Distinguished Professor at East Carolina University’s School of Art and Design in 2015.

—Karen McCally ’02 (PhD)

A Successful Drive

In two decades of coaching, Brian Daboll '97 has played important roles for several college and professional football teams.



On the Offense

Brian Daboll '97 is going from one football powerhouse to another.

Coming off the 2016 NFL season as an assistant coach for the Super Bowl champion New England Patriots, Daboll will begin the 2017 season as the offensive coordinator and quarterbacks coach for the University of Alabama Crimson Tide, winner of four national championships since 2009.

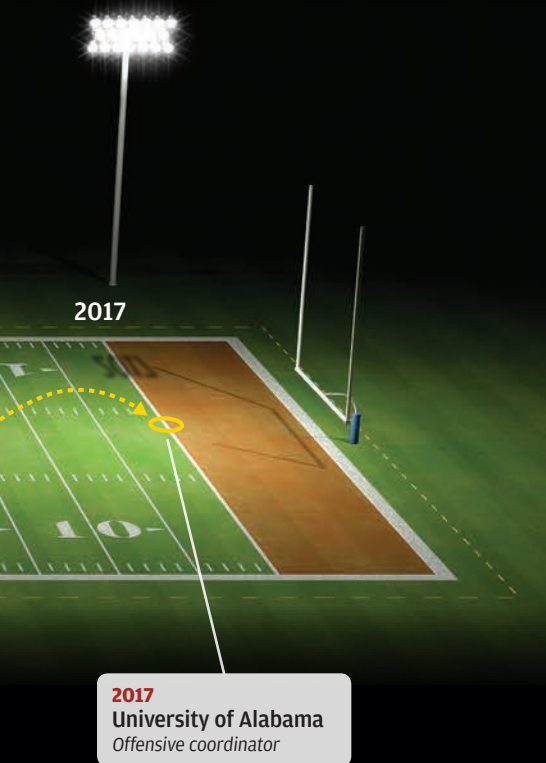
With nearly two decades of college and professional coaching experience, including 10 seasons and 5 Super Bowl titles with the Patriots, Daboll is rejoining a staff led by Alabama head coach Nick Saban. The two first met in 1998 at Michigan State, where Saban was head coach and Daboll was a graduate assistant.

An economics major at Rochester, Daboll played two seasons for the Yellowjackets as a starter at safety. His playing career ended in the 1995 season finale with a helmet-to-helmet collision. Doctors advised him to quit to prevent possible damage to nerves in his shoulders and spine. He spent his senior season as a student assistant before embarking on a coaching career.

Daboll “brings a tremendous work ethic to the job and has a wealth of football knowledge,” Saban said in a statement. “Brian is a great teacher of the game, and someone who can relate well to our players.”

—JIM MANDELARO





2017
University of Alabama
Offensive coordinator

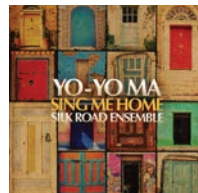
TOP TEAMS: While he was a member of the coaching staff for the New England Patriots, the team won five Super Bowl titles.



GRAMMY GROUP: Double bassist Geoff Saunders '09E (far right) was recognized for his work as a member of the Grammy Award-winning O'Connor Band (from left), Maggie O'Connor, Mark O'Connor, Forrest O'Connor, Kate Lee, and Joe Smart.

2017 Grammy Round Up

Three Eastman School alumni and one faculty member won Grammy awards in 2017.



Sean Connors '04E, a member and technical director of Third Coast Percussion, won the award for Best Chamber Music/Small Ensemble Performance for the album *Steve Reich*. **Oliver Hagen** '08E, '10E (MM) appears on the album as a guest pianist.

Charles Pillow, assistant professor of saxophone at Eastman and a member of the Ted Nash Big Band, won Best Large Jazz Ensemble Album for *Presidential Suite: Eight Variations on Freedom*.

Geoff Saunders '09E, double bassist with the O'Connor Band with Marc O'Connor, won Best Bluegrass Album for the group's debut recording, *Coming Home*.

Shane Shanahan '95E, a percussionist with the Silk Road Ensemble, won Best World Music Album for *Sing Me Home*.

In addition, **Jared Schonig** '05E (MM), drum chair for the Broadway musical *The Color Purple*, performed on the soundtrack, which won Best Musical Theater Album.

How are the Winners Chosen, Anyway?

There were 84 categories recognized by the National Academy of Recording Arts and Sciences for this year's Grammy Awards. Who makes the decisions about the most noteworthy contributions to this vast and wildly diverse array of musical output? **Nick Bruno** '17, an audio and music engineering major from Rochester, discussed the selection process with Stephen Roessner, an instructor in audio and music engineering and a doctoral candidate in electrical engineering at Rochester, and **Dan Kannen** '17, an audio and music engineering major from Baltimore, Maryland.

Roessner won a Grammy in 2010 as the recording engineer/mixer on *Messiaen: Livre Du Saint-Sacrement*, which won for Best Instrumental Soloist Performance (without Orchestra).

The conversation was recorded as part of the *Quadcast*, a University podcast. To listen, visit [Soundcloud.com/urochester](https://www.soundcloud.com/urochester).