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COMPUTING A FOOTBALL SEASON

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Randy Olson loves to see a program evolve.

"I study digital evolution," said Olson, a Michigan State University doctoral candidate studying computer science. "In my research, I create thousands of programs set to perform basic tasks. Some programs fail and die, and evolution occurs."

As an avid football fan, Olson particularly enjoyed watching the evolution of one program: The MSU football program. He found a way to visualize that too.

"They're called word clouds," Olson said. "They help you see the chatter surrounding MSU's football program at a given time. The larger a word is in a cloud, the more times it was brought up in conversation."

Olson gathers data for word clouds from Reddit, a social media website built like an online bulletin board where users can contribute to a conversation. He built a program that created six word clouds—one for each of the past six months—from Reddit conversations relating to MSU football, and he plans to make one more word cloud relating to the Rose Bowl.

Olson said the visualization of months of conversation over time tells its own story.

"Our defense became a bigger and bigger topic of conversation as the season went on, there was a spike in the word 'sack' during the Michigan game, hype around Ohio State's offense before the Big Ten Championship and much more," Olson said. "You can see the story of our football season unfold through these word clouds without ever watching a game."

Creativity in computing is what drew Olson to Michigan State. A former intern at NASA and fellow of the U.S. Department of Defense, he longed to return to higher education after a year-long stint in the professional world.

"They were great practical experiences, but I wasn't happy with full-time programming jobs. I wanted to work in an environment that offered more creative freedom," Olson said. "After looking around at universities and facilities, I was really impressed by the BEACON Center and evolution studies at MSU. If you're a computer geek like me, you're really awed."

With practical applications for his word cloud program in fields like marketing and advertising, Olson is confident he could find a desirable job in the corporate world. Yet, his time at MSU has him convinced he wants to stay involved in higher education.

"My program undoubtedly has applications in industry, but I'm hoping to stay in academia and become a professor," Olson said. "I will definitely be using my word cloud program again, though, to visualize the Rose Bowl game."

Olson is a member of MSU professor of microbiology and molecular genetics Chris Adami's lab. Research in the lab focuses on evolution of behavior and intelligence, evolutionary processes and applications of evolution.

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