

Big data comes to OKC to study everything from quakes to Quran

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Frank Evans is a data scientist at Exaptive Inc. in Oklahoma City. (Photo by Brent Fuchs)

OKLAHOMA CITY – As a religious studies professor at the University of Oklahoma, Dr. David Vishanoff used to pore through hundreds of books a year for his research. Now he analyzes hundreds of thousands.

His Quranic scholarship has blossomed thanks to a project engineered by Exaptive Inc., a big data startup firm in Oklahoma City.

“Clearly it’s opening up the list of titles I have to work with, to

include works and perspectives I could not encounter myself on the ground in Indonesia,” he said. Though his research is far from complete, Vishanoff said he is already starting to trace the arcs of interpretation. For example, in Indonesia, long considered one of the best sites for Islamic scholarship, the literature tends to emphasize social issues, and not necessarily methods of interpretation, which surprised him.

Frank Evans, a data scientist at Exaptive who works on the project, said it took almost a year to build and test the tool, which includes a database of 2,000 classic Arabic texts, congressional records, and the WorldCat library bibliography system. Soon, the group plans to scan in hundreds of Vishanoff’s physical books as well.

“We are building tools that facilitate the people who do know how to do the research to be able to do it far more effectively,” Evans said.

David King, the founder of Exaptive, said he got the idea for the company years ago when he worked as a young software engineer for SynQor in the late 1990s. The company manufactured high-efficiency power supplies and finally got a big contract from Hewlett-Packard to deliver a hundred units after another supplier had an issue.

HP was furious, however, when two of the three products failed in testing. King said the company kept meticulous data on its manufacturing process and within a day was able to trace the problem back to a vendor who had supplied a faulty part in three units. King said HP didn’t believe they had identified the problem, because no vendor had ever traced an issue so quickly.

King founded Exaptive in 2011 in Boston. When his wife, Deonnie Moodie, got a professorship at OU in 2014, King said, he was hesitant to move his company, which had mainly Massachusetts clients. But when he saw the state’s eagerness to diversify its job growth, he changed his mind.

“When I got to Oklahoma City, what I found was a burgeoning entrepreneurial ecosystem that was very exciting to be part of. And I decided this was a great place to continue to grow Exaptive,” he said.

King declined to cite revenue numbers for his private company, but said it has quadrupled in size since arriving in Oklahoma. The company had six people when it moved west and has hired approximately 10 people in the past 15 months.

Mark Smith, a big data architect consultant at Sonic Drive In, co-founded the Oklahoma City Big Data Meetup in July 2014. He said that, since then, interest has boomed: the group regularly gets about 25 members for the events it holds the first Thursday of every month at the Oklahoma Blood Institute Building on Lincoln Boulevard. Smith said engineers from local companies such as Devon, Chesapeake and Hobby Lobby come to network and learn new

techniques.

On the business side, Smith said, engineers discuss ways to use information to make better decisions. For example, at Sonic, Smith's team uses data gathered from 30 to 40 small computers at 3,000 sites. When a customer orders an entree on a touch-screen or app, Sonic can offer different side orders based on the items that usually sell well with that entree. Or they can offer something else instead when it's hot and there isn't much demand for spicy food.

They also engineer ways to make databases secure yet accessible. Smith said often there is so much data that storing it all becomes expensive and the company has to decide which chunks should be available for ready analysis and which to access later.

Data sciences have been equally prominent in Oklahoma City, Smith said. That's the use of data for research purposes to predict future events. For example, the group recently featured Matthew Schroyer, who is gathering and analyzing earthquake numbers.

Back at OU, Vishanoff's goal is to write a book this summer with what he's learned. He said the Exaptive tool still needs some work to get the bugs out, but as of last month it has finally come to the point where he can use it for research.

"The hope is to make this the kind of tool that everyone can use five, 10 years from now," Vishanoff said. "It's the one digital humanities project where everyone says, 'Oh! I could use that.'"

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