## Two Wright State graduate students help create commercialization success story

With the support of a grant from the National Science Foundation, two WSU graduate students helped transform an innovative, WSU-developed software tool, Twitris, into a Dayton start-up company - Cognovi Labs.

Former construction worker Jeremy Brunn used to spend his summer months performing backbreaking work, such as installing roofing shingles in 95-degree weather. Last summer, he and colleague, Alan Smith, helped transform a sophisticated software tool into a Dayton area start-up company.

Jeremy's transformation from pounding nails to commercializing technology started when he decided to lay down his hammer and pick up a textbook on programming languages.

"So far, coming to Wright State has been one of the better decisions I've made in my life," said Jeremy. "I'm grateful that Wright State was here for me. I can't even imagine what I would have done with my life if I hadn't decided on this path."

Jeremy's decision point came shortly after the 2008 crash in the housing market. He and his wife had just become proud parents of their second child.

"I knew I couldn't provide steady support for my family in the construction industry. I read a Forbes article which predicted that computer science would be one of the hottest growth jobs in the future," said Jeremy. "I've always enjoyed working with computers. When I was 10, I programmed a computer to check my math homework. So, computer science is what I decided on. And once I did, I went all in," he said.

Jeremy ended up earning his B.S. in Computer Science from Wright State and then decided to continue on the path to earn a Master's degree.





"My kids were one of my biggest motivations for staying in school," said Jeremy. "My son was born just before I started here, and I wanted to provide stability for my family."

Fellow Kno.e.sis graduate student Alan Smith had a similar motivation for pursuing a Master's degree at Wright State - parenthood.

"When I had my son, I made a life-long commitment to do best by him, which meant not giving up on my educational goals," said Alan.

Together, Jeremy and Alan became two important members of the Kno.e.sis team that transformed Twitris into a Dayton-based startup company.

The product of years of research performed by Kno.e.sis Executive Director Amit Sheth, Ph.D., and several of his Ph.D. students, Twitris was developed to provide actionable insight into social media content – connecting real-time Twitter and other social media content with relevant news, Wikis, Linked Open Data, etc., as background knowledge for deeper, broader and more precise insights of collective social media intelligence. Twitris provides insight in three different dimensions: Spatio-temporal-thematic (where, when, what); people-content-networking (who and how); and emotion-sentiment-intent (perceptions, actions and impact). This combination of data and insight into social media content helps provide actionable information and better decision making for the end user.

The power of Twitris attracted a potential licensing partner, Ikove Venture Partners, to explore the marketability of the software tool with researchers at Wright State's Kno.e.sis Center.

"We recognized that Twitris was a powerful tool, but the challenge was making this tool accessible to a non-computer scientist," said James Mainord, COO of Ikove Venture Partners and Cognovi Labs.

"We asked the Kno.e.sis team to help us unlock the power of Twitris for our targeted end users – a branding executive at Disney, a hedge fund manager, a political campaign, or a Social Media Marketing Manager at Wendy's," said Mainord.

Therein lay the challenge for Jeremy and Alan.

"We flew in potential investors from New York City and South America to attend our weekly meetings with the Twitris commercialization team, and every week, we'd say, 'This is interesting, but can Twitris do this? Can it show it me this information in this format? Can it update even faster?" said Mainord.

"Our investment team was extremely thorough with their examination of the Twitris tool," said Mainord. "We gave Jeremy and Alan new technical challenges every week, and every week, they overcame every challenge we laid before them."

The quiet, behind-the-scenes work of Jeremy, Alan and the rest of the Kno.e.sis team started to generate national publicity. TechCrunch, the nation's top business blog for startup and investment news, wrote several articles on the innovative, WSU-developed technology. On June 29, 2016, TechCrunch posted a glowing article on the use of Twitris to accurately predict the outcome of the contentious Brexit vote using sophisticated social media analytics.

Based on the power of Twitris, and the performance of the Kno.e.sis team, Ikove licensed the Twitris technology and, in the fall of 2016, launched a new, Dayton-based company, Cognovi Labs.

"In business, timing is everything. We measure things like 'manufacturing velocity,' and 'speed to market,'" said Mainord. "What's amazing about Jeremy, Alan, and the rest of the Kno.e.sis team is that they understand this."

"If they say something will get done, you know it will get done," said Mainord. "That's the highest compliment you can say about someone."

Dr. Sheth - Jeremy's and Alan's advisor - said he's not surprised by the feedback on his students.

"When I'm working with my students, I often feel like President Kennedy making the commitment that an American will land on the moon," said Dr. Sheth. "I know there will be a lot of tough, technical challenges, but ultimately, I'm confident that our students will find a creative solution, and they will succeed"

Barbara H. Kenny, Ph.D., Program Director for the National Science Foundation's Partnerships for Innovation Program, said she was pleased that Twitris has made the commercial leap.

"The National Science Foundation's Partnerships for Innovation Program is an initiative designed to support the transition of NSF-funded fundamental research into market-valued solutions," said Dr. Kenny. "We are very pleased with the Wright State team's ability to transition its NSF-funded Twitris technology into a start-up company."

Nathan Klingbeil, Ph.D., Dean of WSU's College of Engineering and Computer Science (CECS), said he is proud of the CECS graduate students' contribution to the Twitris commercialization success story – but not surprised.

"We pride ourselves on making high-quality engineering and computer science education accessible to students from all walks of life," said Dr. Klingbeil. "The fact that a former construction worker can come to Wright State, earn both a Bachelor's and Master's degree in Computer Science and play a critical role in launching a new, high-tech company is impressive, but this is what we've grown to expect from our students."

"The remarkable success of Jeremy, Alan, Dr. Sheth, and the Twitris commercialization team provides further testimony to our collective emphasis on access, affordability, and preeminence in engineering and computer science education," said Dr. Klingbeil.

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**Location:** 303 Russ Engineering Center **Hours:** Monday–Friday, 8:30 a.m.–5 p.m.

**Phone:** (937) 775-5131 **Fax:** (937) 775-5133

Email: Undergraduate: <a href="mailto:cseundergradinfo@wright.edu">cseundergradinfo@wright.edu</a>
Graduate: <a href="mailto:cseuradinfo@wright.edu">cseuradinfo@wright.edu</a>

