

## Profile: Professor Amit P. Sheth

Amit Sheth is an educator, researcher, and entrepreneur. He is the NCR Chair and Professor of Computer Science & Engineering at the University of South Carolina (UofSC). He was the founding director of the university-wide Artificial Intelligence Institute of South Carolina (**AIISC**) (07/19-09/23). Earlier he was the LexisNexis Ohio Eminent Scholar and the executive director of Kno.e.sis—the Ohio Center of Excellence in Knowledge-enabled Computing. Kno.e.sis was also a multidisciplinary Ohio Center of Excellence in BioHealth Innovation.



Prof. Sheth is working towards a vision of Computing for Human Experience aided by advances in the third phase of AI and neuroscience and cognitive science inspired AI (knowledge-empowered neuro-symbolic/hybrid AI and semantic, cognitive, and perceptual computing). His recent interests in AI include interpretability, explainability, and safety for trustworthy AI; multimodal AI, conversational AI including virtual assistants, etc. Both the AI Institute and earlier Kno.e.sis have extensively carried out **interdisciplinary research** (current collaborations encompass digital/personal/connected health/public health/nursing/epidemiology (applied to diverse conditions-mental health & wellbeing, asthma, diabetes, aphasia, cognitive decline, drug abuse, nutrition, COVID19, epidemic, etc.), cognitive science, neuroscience, smart manufacturing, biomedicine, education, social good and social harm (including disaster management, toxicity/disinformation/fake news/radicalization/extremism). The **translational** nature of his research includes projects with a majority of the colleges/schools at the universities he has developed research organizations, and includes intimately involvement in open-source activities, social entrepreneurship, technology transfer and licensing, commercialization, and regional economic development as he continues to lead research that emphasizes real-world scientific, technological, human development and economic impact.

Some of Prof. Sheth's recognitions, honors and awards include:

- [IEEE Computer Society W. Wallace McDowell Award](#) “for pioneering and enduring contributions to information integration, data and service semantics, and knowledge-enhanced computing,” 2023. [Interview Profile Video](#)
- Elected Fellow of the ACM for “contributions to data semantics and knowledge-enhanced computing, 2021.
- IEEE TCSVC [Research Innovation Award](#), “in “recognition of his pioneering and enduring research, applications and adoption of distributed workflow processes and semantics in services computing,” 2020.
- Distinguished Alumni [Award for Academic Excellence](#), College of Engineering, Ohio State University, 2019.
- Elected [Fellow of the AAAS](#) “for pioneering and enduring contributions on information integration, distributed workflow, and semantics and knowledge-based big data analytics,” 2018.
- Elected [Fellow of the AAAI](#) “for significant and enduring contributions to semantics and knowledge-based techniques to transform diverse data into insights and actions,” 2019
- 2017 Ohio Faculty Council [Technology Commercialization Award](#) (runner-up), 2017.
- Received the Trustees Award for Faculty Excellence, the highest award given by Wright State University, 2012.
- Elected [Fellow of the IEEE](#) “for contributions to information integration and workflow management.,” 2006.

**As a leader**, he has been able to demonstrate the ability to create world-class entities to achieve unprecedented institutional outcomes. The **AIISC** was the first university-wide AI initiative in the US Southeast. During his stewardship, he built it into a world-class organization (experts: “put USC on the world map”) with 40-50 researcher (6 well-funded faculty, >>30 funded Ph.D. students, ~3000 citations, exceptional student outcomes, IP creation, regional economic impact). **Kno.e.sis**, with its ability to position Wright State University among the top 10 in the world in the area of World Wide Web, and was the largest research center in the university’s history. Prior to Kno.e.sis, he established the LSDIS lab at the University of Georgia as one of the top international groups in its area of research, bring ~75% of the funds in the department. His leadership approach includes an ability to create a strong ecosystem with a focus on **vision, people, collaborations, and resources**. He has pursued a vision with a multidisciplinary scope, placing bets on high risk and high reward topics well before those topics have ascended the hype curve, developed a highly collaborative environment that attracts exceptional members (e.g., employees, faculty, students), personally and collectively securing highly competitive funds, and ensuring exceptional outcomes. Example innovations and the terms he coined include Augmented Personalized Health (2017), Smart Data (2004), Semantic Sensor Web(2007), Citizen Sensing (2008), Semantic Perception (2008), Continuous Semantics (2009), and augmented personalized health (2017). He has served on numerous scientific/technical advisory boards.



LexisNexis Ohio Eminent Scholar has been the first and the primary occupant of the 50K sqft Joshi Research Center. Kno.e.sis occupied more than a floor of the building. AIISC has been allocated 20,000 sqft top floor of Sc & Tech Bldg.

**As an educator:** Prof. Sheth's most prized achievement is the **exceptional success of his past advisees (supervised 31 completed PhD dissertations, >35 MS Theses, >15 postdocs)**, practically all of whom compete successfully against graduates/postdocs from top 20 institutions. Several of his students have received prestigious international awards and fellowships and been mentioned in numerous articles in top global media outlets (<http://aiisc.ai/amit/media>). Three of them have given keynotes at significant events prior to completing their PhDs, and a majority of his Ph.D. advisees have over 1,000 citations each, including four with 5,000+ citations each. The average citation for his first 20 Ph.D. advisees on Google Scholar exceeds 1,800 (<http://j.mp/Kimpact>). His students/postdocs have been employed at major research universities (NCSU, CWRU, GMU, UMBC, UKY, Stanford, UCSF, UMBC, GSU), top industry research labs (research position at: IBM, Amazon, Samsung, Bosch, Target Labs, etc.), top technology companies (Meta/FB, LinkedIn, Amazon, Apple, CISCO, etc.), hold executive positions, and are successful entrepreneurs. *All his Ph.D. students who have chosen to go for TT academic jobs have gone to R1 universities without having to do a postdoc.*

Prof. Sheth has demonstrated academic initiatives and innovations in the form of initiating/advising new academic programs (e.g., certificates in AI as well as Big and Smart Data Sciences; currently developing MS in Interdisciplinary AI), being among the first in the world in offering courses on emerging topics (Internet Programming in 2000, Enterprise Information Systems & Distributed Workflow in 1995, Global/Web Information Systems in 1995, Semantic Web in 2001, Web 3.0 in 2013, etc.), online teaching, international educational and research collaborations, and extensive (>50) tutorial presented

to academic and professional audiences. He takes prides in nurturing **diversity**. Compared to a female student population of less than 20% in good CS graduate programs, >50% of his group consists of females, matched by excellent participation of underrepresented groups. As the dean's representative for **PhD program recruiting** for his college, he was able to use his extensive international connections to attract students from top international institutions and develop joint programs.

**As a researcher:** Prof. Sheth has been elected fellow of five major professional societies. Research.com placed him among top 50 Computer Science authors in the USA and top 80 worldwide in 2022 (08/22 **h-index 117** with >57,000 citations). For several years he has been placed among the top 100 world-wide in computer science and engineering (<http://bit.ly/topCSI00>). In the past, he has been placed highly in WWW (top few in based on 5, 10, or all-years during 2010-2016) and top 25 in databases (all years, Microsoft Academic Search, checked on Mar. 2013: <http://j.mp/MAS-a>), and at the top in Semantic Web/Semantic Computing/Semantic Technology and a few other topics (cf. Amin: <http://aiisc.ai/amit/publications/>). He has been a PI of numerous competitive **research grants**, totaling **>\$33 million**, sponsored by federal agencies (>20 **NSF, 10 NIH including 4 ROIs**, DARPA, AFRL, AFOSR, ARL, ONR, etc.) as well as industry (Microsoft Research, IBM Research, HP labs, Bosch, etc.). Additionally, **more than \$7 million** has been awarded to support his technology commercialization and R&D efforts, resulting in several times more in economic activities including payroll associated with the jobs created. His own annual research expenditures have been ~\$1-1.5 million (translating into ~100 GRA months per year). He is on several journal editorial boards (including *IEEE Internet Computing*), is a founding co-EIC of *Web Intelligence Journal*, was the founding EIC of the *International Journal on Semantic Web and Information Systems (IJSWIS)* with IF>3 during much of the time he was the EIC, served as an EIC of *Distributed and Parallel Databases (DAPD)* for 15 years, and is a co-editor of two Springer book series. He has organized and/or co-organized over 100 international events (conferences/workshops), served on >250 PCs, and given **>95 keynotes** at many of the most significant conferences in his area.

**As an Entrepreneur, Technologist, Executive and Leader with Real-World Impact:**

Prof. Sheth's research has led to the founding or cofounding of four companies resulting in significant regional impact and development of high-tech jobs (majority of technical leadership in the companies have been his former students). **Three** of the companies (two acquired, one formed in 2016 and growing rapidly) are **based on the licensing of technologies that resulted from his university research**, resulting in significant (>\$400K) licensing fees/royalties. The other two involved incubating the technology under his guidance. His work has resulted in several commercial products, and many deployed applications. He has a long history of leading multidisciplinary, multi-institutional, and multinational activities. In the areas of healthcare and life sciences, his intensive collaborations with clinicians as well as biomedical researchers have resulted in research and commercial tools, systems, and applications.

For the companies he has founded, **he also played executive roles encompassing Chairman of the Board, President and CEO, Senior VP, CTO, and Chief Scientist, founder**, supervising a full range of activities including fundraising, finance, customer acquisition/sales, business development and marketing, engineering, recruiting and training. His second (VC-funded) company grew to approximately 35 employees (with a majority recruited from the university) and spent \$7 million in local payroll before it was acquired. He has served (and continues to serve) on technology and business advisory boards and in a variety of advising roles, including international research projects, academic programs, and startups. He has had a long-term interest in higher education and has given a number of presentations covering policy and strategic issues to decision-makers (e.g., Mr. Modi of India).