

U . S T

Member Success Case Study | Written By: Audrey Woods

UST

As a provider of personalized digital services such as cloud transformation, cybersecurity, and data analytics, it's important for a company like UST to be up to date on the most cutting-edge technology. Computer science is a dynamic and fast-moving industry, so UST has a vested interest in maintaining a connection to academic research like that happening at MIT CSAIL and using this link to keep their engineers educated and aware of new inventions. UST employees need to know what's happening at the forefront of their field to deliver innovative solutions for their clients' various technical problems.

Using the resources offered by CSAIL Alliances, [UST](#) is leveraging their workforce to bring research to commercialization and aiming to make a better world in the process.

ABOUT UST

Founded over 20 years ago, UST calls itself a “digital transformation solutions provider.” Originally known as UST Global, they've grown from a small 14-person startup to a multi-national corporation with 34,000 employees in 34 countries. According to their [website](#), they've created billions in value for more than 140 clients, who on average stay with UST for thirteen years or more. Chief Information Officer and Chief Investment Officer [Sunil Kanchi](#) says, “seven of the top 10 retailers globally are UST customers.”

On a high level, Kanchi explains that the founders of UST “had this dream of using technology to transform the lives of (1) the customers and their end customers, (2) the people who are working at UST to take care of these customers, and (3) the society we work in.” In the pursuit of this goal, UST realized early on that “we can only be good at so many things.” Therefore, they decided to “develop an ecosystem of great companies to solve some of the bigger problems that are out there.” This has led them to focus on four major areas: healthcare, finance, retail, and technology.

Chief AI Architect Dr. Adnan Masood walked through UST's approach to solving major industry challenges. First, they engage with clients who bring them various technological problem statements. Sometimes a solution can be found through UST's established network of more than 300 startups who are tackling related issues and seeking validation for their technology. Other times, UST turns to the “thought leadership and open-source assets” of top academic institutions like MIT CSAIL to amplify their own engineering capabilities and implement solutions.

CONNECTING WITH ALLIANCES

Joining CSAIL Alliances was a natural choice for UST, who became a member in 2017. Kanchi says at the time UST was trying to be “strategic in putting together a relationship across the multiple pillars [of their approach], so we wanted to be associated with the best.” They view engaging with CSAIL as mutually beneficial, since UST can provide researchers with real problems that have an impact on society and researchers offer UST's engineers fresh ideas and ways to approach technical challenges.

For more information about CSAIL Alliances industry engagements, please visit:

cap.csail.mit.edu

CONNECTING WITH ALLIANCES *(continued)*

For example, Dr. Masood brought up a project at UST called the Bin Packing Challenge. He describes it as “an optimization problem in which items of different sizes have to be packed in a finite number of containers.” Fundamentally, this is a supply chain issue that many of their clients deal with. When UST approached MIT Professor [Justin Solomon](#), who specializes in geometric data processing, Prof. Solomon provided a point of view that Dr. Masood says was “very helpful to our clients.”

Another faculty interaction Dr. Masood mentioned was speaking to Professor [Marzyeh Ghassemi](#) about machine learning interpretability. As Dr. Masood points out, there is a large potential for bias in AI models, especially in “black box algorithms” that lack explainability. “Our clients are concerned about systemic bias,” he says. “They want to make sure their algorithms don’t have societal bias, racial bias, gender bias, etc.” Expanding on UST’s suite of products which help explain black box models, Professor Ghassemi brought what Dr. Masood calls “an unorthodox approach” to the subject. Dr. Masood and his researchers attended several of her lectures and he even met her in person at one of the CSAIL Alliances events. All this culminated in UST incorporating her point of view, implementations, and suggestions into the service they now offer to their clients.

UST also takes advantage of the access to CSAIL’s students. Dr. Masood specifically brought up a PhD student named [Monica Agrawal](#) who co-authored a paper with Professor [David Sontag](#) and other researchers titled [Large Language Models are Few-Shot Clinical Information Extractors](#). The paper presented a deep learning model able to extract information from electronic health records, which are notoriously hard to decipher due to the nature of clinical jargon. This model offered a way to make healthcare transparent and accessible, a capability of great interest to UST and its clients.

Dr. Masood says, **“these kind of research items really help UST to gain benefit from this MIT relationship.”**

Regarding CSAIL Alliances programs, Dr. Masood listed several ways both the conferences and courses have been beneficial to the UST workforce. Most recently, Dr. Masood himself attended [Convergence: The Promise and Reality of AI & Quantum](#), which he said was timely for UST as they enter the quantum research space. “We are trying to build a quantum center of excellence [and] a point of view for our customers around quantum computing, especially around finance,” he says, so he was especially interested in some of the panelists at Convergence like Douglas Hamilton from Nasdaq and Dr. Shouvanik Chakrabarti from JPMorgan Chase & Co. He highlighted the importance of not only seeing but also meeting speakers such as MIT Center of Quantum Engineering Director Professor [William Oliver](#), CSAIL Professor [Samuel Madden](#), and MIT Professor [Peter Shor](#), famous for inventing Shor’s algorithm. Dr. Masood says that now when he speaks to UST leadership or customers he can “cite these names” and that “the credibility aspect is really important.”

Furthermore, Dr. Masood and other members of his team have taken several CSAIL courses through CSAIL Alliances, such as [AI Implications for Business Strategy](#) and [Machine Learning in Business](#). This has led to both personal and business development, and Dr. Masood hopes to make these resources available to more UST employees going forward.

MAXIMIZING THE CSAIL ALLIANCES WEBSITE

What Dr. Masood calls the “biggest benefit” of their relationship with CSAIL Alliances is the repository of material offered to members on the [Alliances website](#). He says that the way the website is “organized and made available for companies like us really gives us a sense of research beyond just research papers.”

For more information about CSAIL Alliances industry engagements, please visit:

cap.csail.mit.edu

MAXIMIZING THE CSAIL ALLIANCES WEBSITE *(continued)*

Right from the beginning, UST recognized the value of the lectures, recordings, conference updates, course and campus discounts, news articles, and information about researchers available through the CSAIL Alliances members-only website. To help the rest of the company take advantage, UST asked their Client Relations Coordinator [Callie Mathews](#) to record an hour-long presentation that would guide their employees through the website and the numerous resources that can be found there. The recording was then released via UST's internal communication channels and company-wide social media groups. Dr. Masood says, "she presented it really well and that got a good response from UST as a company."

Nowadays, Dr. Masood is constantly encouraging new employees to access the website, saying, "they can look into the researchers who are working in a given area and see their current publications and work." One example of a resource his team finds particularly useful is the CSAIL Alliances First Friday Lunch program where CSAIL researchers present about their recent work. He brought up MIT Senior Research Scientist [James Glass](#)'s talk about weakly supervised multimodal learning which was helpful "because [UST] is working on these kinds of problems." Dr. Masood also said MIT Assistant Professor [Mina Konaković Luković](#)'s First Friday Lunch about transformational design and fabrication was "a very good session."

Dr. Masood is happy to report that at UST "people are actively engaged with the Alliances website, checking out events, asking about discounts," and that he personally gets "a lot of benefit" from the assets CSAIL Alliances makes available online.

GOING FORWARD

When asked what UST is focused on next, Kanchi says, "we want to find ways to bridge the gap between the haves and the have nots," a problem he believes technology will play a large role in solving. Kanchi says, "being able to take different technologies and stitch them together to create cost-effective solutions will transform the lives of millions of people." He emphasizes that the research coming out of universities like MIT will be pivotal in creating "practical solutions that can benefit the world."

Kanchi adds, "**Universities and industry need to work together to provide the next level of solutions.**"

On a more granular level, Dr. Masood says UST is focused on a few major technological challenges, such as responsible and safe AI, low-code and no-code solutions, and getting more people onboard with their vision of "integrating academic and industry research."

This means UST is actively looking, as Kanchi puts it, for "more intersection points" between themselves and research institutions like MIT CSAIL. Kanchi plans to leverage their relationship with CSAIL Alliances "to the next level to benefit our own personal growth as well as to benefit society at large." Thanks to the advantages CSAIL Alliances provides, Dr. Masood says, "we have seen so many really cool things come out of our employees in terms of research and development."

Kanchi concluded, "we've been really happy about what we get out of [CSAIL Alliances]," and both he and Dr. Masood are excited to see what can be done in the future.

For more information about CSAIL Alliances industry engagements, please visit:

cap.csail.mit.edu