Design Charette

Artificial Intelligence, Cyber, Computing and Data Science

March 19th, 2024

UTSA Academic Affairs

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Charette Goals and Format

On March 19th, UTSA Academic Affairs hosted an Artificial Intelligence, Cyber, Computing, and Data Science Design Charette, attended by about 45 business and nonprofit leaders. Held at UTSA's San Pedro I building in Downtown San Antonio, this event sought community input as part of a UTSA initiative to design a new college around these themes.

Following a brief welcome and overview of UTSA's new college initiative, guests participated in facilitated conversations around tables, with approximately six community members plus a UTSA table facilitator and note taker seated at each table. Table groups discussed the following four questions over the course of an hour and then shared their key takeaways with the full room.

Charette Questions:

1. What AI, computing, cybersecurity and data science talent and knowledge gaps are the most challenging for your enterprise?
2. How would you like the new college to work with you to fill those gaps?
3. From what other universities do you seek AI, cybersecurity, computing, and data science talent and knowledge/solutions? Why?
4. In five years, what headline do you want to see about what the college has achieved regionally and nationally to the benefit of San Antonio and its people?

Table groups were asked to consider these questions with respect to the following three themes: education and training; research and development; community engagement and collaboration

The following report sections summarize the main areas of input.

Charette Findings

Education and Training

Charette participants frequently noted the following areas as **skill and knowledge needs** in their industries that the new college could help to fill:

- **Soft skills**, such as:
    - **Agility and flexibility** for rapidly changing fields, including the ability to celebrate risks and failures.
    - **Teamwork, conflict resolution,** and **people skills.**
    - Being **self-starters.**
    - **Critical thinking** and **problem solving**, including "next-level thinking that goes beyond the book fundamentals."

- Building **technical skills**, such as:
    - Strong **math** skills, including **data science**, including strengthening education in these areas in the K-12 pipeline.
    - Relevant and current **coding** languages (e.g., Python).
    - Skills in using **artificial intelligence**, including validation of sources and writing better prompts, incorporating an overall liberal arts perspective "to know how to learn and be open," and importantly, exposing students to AI early on, so they know how to use it responsibly.
- Integrating **fundamental business knowledge**, such as:
    - Business 101 and Business Ethics coursework.
    - Understanding of how to behave in a business environment.
    - Cultivating an entrepreneurial way of thinking.
- **Technology ethics/governance:** Participants noted that UTSA could be the front-runner in scholarship of ethics/governance of these new technologies.
- **Legal** aspects of artificial intelligence.
- Laying the groundwork for obtaining **security clearance**. Discussions with students about career requirements early on, even at the K-12 level, can help avoid security clearance barriers to employment later.

Charette participants stressed the value of **experiential learning** as valuable training for the real world, recommending the following:

- More internships for rising juniors and rising seniors.
- Always closing the feedback loop following corporate internships, to adjust the curriculum as needed.
- Bringing in more guest lecturers from corporations and government.
- Starting a UTSA podcast.
- Creating more military-related experiential learning opportunities, including exposure to experts in the classroom (e.g., case studies).

Other suggestions related to meeting workforce needs included:

- Shortening pathways to graduation if possible.
- Creating more continuing education opportunities and certifications for those already in the workforce.
- Expanding the career pipeline of veterans.

Research and Development

- Employers desire job applicants with research experience, and particularly want to see more applicants with research experience starting from the undergraduate level, which they noted is rare.
- They stressed the value of graduates with collaborative research skills.
- Some pointed out that a collaborative ecosystem between UTSA's National Security Collaboration Center (NSCC) and the new college would create invaluable opportunities for students.

Community Engagement and Collaboration

Attendees emphasized that UTSA's success is their success and expressed interest in partnering with the new college. They noted UTSA's special opportunity to work with smaller companies and form close relationships with them, pointing out that small businesses can successfully "get UTSA's attention" and recruit UTSA's talented students in a way that can be harder at other schools. Some of their specific partnership ideas and suggestions for the new college included the following:

- Face time for community partners with UTSA's students, such as internships, externships, fellowships, apprenticeships, employers visiting classrooms, bringing students to their boardrooms for an "idea-a-thon," or arranging "coffee chats."
- Building a well-rounded speaker series in the new college.
- Leadership by UTSA in helping build up the tech community in downtown San Antonio.
- Finding ways to be top-of-mind for the DC community as thought leaders.
- Offering a "front door" to the community, leveraging Career-Engaged Learning, the Student Success Center and the Alumni Association to forge community connections.
- Identifying opportunities for student interns to "train up" their senior colleagues.
- Holding more events such as the charette, where community partners can meet with UTSA and exchange ideas.
- Partnering with advisory councils for curriculum development and review and seeking feedback from companies who mentor UTSA interns.

Recruitment and Knowledge Sharing from Other Institutions

When asked which other institutions they go to for talent and knowledge in the areas of AI, cyber, computing, and data science, attendees noted that such relationships are frequently based on a pipeline of graduates from a single trusted faculty member. Those original relationships frequently develop via alumni networks or business contacts. Other reasons for a university serving as a business's go-to include its overall reputation for producing talent and marketable skills; certifications and apprenticeships; the presence of incubators, R&D, and innovative entrepreneurship opportunities for students; proximity of the institution to their business; and ease of recruiting.

Ways to Stand Out

Attendees imagined “dream headlines” they would love to see for the new college.

The leader in producing women, veterans, and minorities in these fields

UTSA lead partner for national security

Economic transformation

The college leads the national in graduating women and minorities in these fields

San Antonio hidden gem for cyber due to DOD

Reputation for graduating people with job skills, creating a large pool of people with clearances, with real skills – bringing all sorts of jobs

School X in City Y developed a UTSA-like school

Creating energy and intensity in downtown

University is helping poverty alleviation based on upskilling programs

People graduate from here and stay here

This college is the default choice for these disciplines for the students and employers and hyper competitive for graduates seeking employment.”

Continuing college of choice/opportunity for military affiliated

Breaking down silos within industries; data as a service

Be known in DC and by the government; being tapped for things that are cutting edge

This college is the community of practice – with the national agencies and institutions – and they have relationships with HR and have internships – that this is a formal relationship

UTSA is more nationally known

Bringing a liberal arts degree to AI

Every grad from this program graduates with a job

Every grad has an internship

90% of UTSA grads are still employed and doing great things

Tesla-like company in San Antonio

Founders of companies from UTSA are creating AI/ML/Cyber/Data Science companies (startups)

Texas students interested in AI, Cyber, choose UTSA

Next Steps

Community partnerships are a priority for the new college, and although the charette is only one of numerous engagements that will be planned, input provided during this stage is invaluable in helping us envision the new college's structure. We sincerely thank all who participated in the charette and who completed the survey on how UTSA can engage with you as a partner of the new college. Please continue sending feedback and ideas to provost@utsa.edu.