COMMUNITY COLLEGE DAILY
AMERICAN ASSOCIATION OF COMMUNITY COLLEGES

The latest intelligence on AI degrees

BY ED FINKEL MARCH 17, 2024

What do community colleges need to know before developing artificial intelligence programs?

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Leaders from **Maricopa Community College**, **Houston Community College** and **Miami Dade College** — the first three nationwide to develop AI associate and bachelor's degrees — will provide insights into their strategies and challenges and make recommendations about curriculum, industry partners,

student recruiting, faculty training and more during a session at the upcoming **AACC 2024** meeting.

Maricopa became the first to unveil an associate degree in AI and machine learning four years ago, in partnership with Intel Corp., and the school is planning to roll out its bachelor's degree in 2025. Intel already had a program in place called "AI for Youth" underway in Europe and had been thinking about how to partner with an educational institution, says Gabriela Rosu, dean of instruction at Chandler-Gilbert Community College, part of the Maricopa system.

*Editor's note: This article continues a series that examines some of the topics and **sessions** that will be featured at the **American Association of Community Colleges' annual convention**, which will be held April 5-9 in Louisville, Kentucky. **Registration closes Friday.***

"I wanted to create an artificial intelligence program," she said. "Intel came at the right time to the right place."

During the brainstorming process, the partners realized that a program created for youth needed to be changed to suit community college students, and the college convinced Habib Matar, who then worked at Intel and taught as an adjunct at Maricopa, to become instructional services director and AI program director for the Maricopa system, Rosu says. Matar developed the classes, faculty went through training with Intel, and both Chandler-Gilbert and sister school Estrella Mountain have since moved forward on programming.

Rethinking what questions to ask

Before presenting at the AACC annual convention next month, Maricopa first spread its best practices during a national AI Summit it hosted last October, where more than 60 community colleges learned about the ins and outs, conceived in response to the many queries the school had received, rather than continuing to answer them one by one, Rosu says.

After the success of that initiative, "We said we should talk with all colleges nationwide," she says. "From my perspective, in meeting with leaders and administrators around the country, they ask the wrong questions. They think about the budget — how much it's going to cost to develop or launch a program.

What administrators are missing is, first of all, how to upskill and reskill faculty. Colleges are always looking to upskill and reskill the workforce, without looking in-house to faculty."

They also miss opportunities when it comes industry partnerships — while large corporations like Intel have the resources to help get such programs off the ground, and can provide the tools to educate faculty and institutions, colleges need to cast a broader net when it comes to placing students upon graduation, Rosu says.

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"You have to think about the other 1,000 companies in your area. That's who you need to bring to the table, not just the large companies," she says. "Every single college is looking to Intel."

That broader net also helps when it comes to other types of efforts in which schools partner with companies, Rosu says.

"They allow their employees to donate time, be mentors for students and work on capstone projects," she says. "Which is very important: Students walk away with real-life experience and can think critically about how to create AI projects."

A wave of interest

Houston Community College launched its associate degree program in 2020 — just a couple weeks after Maricopa—and its bachelor's in applied technology in AI and robotics last fall, the first school to reach that point, says Samir Saber, dean of the school's Digital and Information Technology Center of Excellence and executive director of workforce technology.

"We've been working closely as schools, as pioneers of AI at the community-college level," he says of those on the panel. "There's such a huge demand, so much competition, and a lot of things to learn about in terms of computers and other resources. We've been helping each other."

Given the growth in interest, thanks to everything from generative AI like ChatGPT to companies like Amazon "employing" robots in burgeoning numbers,

enrollment in Houston's associate degree program rocketed from 45 in 2020 to more than 320 now. To date, six students have enrolled in the bachelor's program, Saber says, noting that it's a "game-changer" at a total tuition of about $12,000.

"There's a lot of demand from all walks of life," he says. "So many students who already have degrees are looking to reskill, to do something different, to pivot. So many professionals already in the field — nurses, law enforcement, accountants — they want to reskill and retool."

A different approach

HCC is hosting its third AI conference this year, a student-led effort that explains the school's approach, Saber says.

"It's been very different than the traditional academic model," he says. "It's been very project-based, in small groups. There's no midterm; no final exam. It's using a real-world project, trying to tie in industry to get students to use tools as they come, learn as they go, because it's changing every day."

While the school's success has helped bring high-quality instructors, it's not easy to compete with industry on salary, Saber says.

"We try to find ways to get them involved in grants, research projects and curriculum development, but even then, it doesn't compare," he says. Even so, "We're getting really good quality in terms of instructors who want to come teach for us. It goes a long way."

Houston and other schools plan to continue partnering with companies like Intel, Amazon, Microsoft and Invidia, Saber says.

"The big companies that have that kind of curriculum are all looking at community colleges," he says. "They want to do stuff with the masses — they want to get tools that they spent billions on in the hands of end-users. That's pretty much our mission. We will tell our story about, 'How did this thing even start? What are some tips, what worked well, what didn't, what to look out for. If you are starting a new AI degree or bachelor's, if you want to do continuing education, what does it look like?'"

What's driving interest

Miami Dade College (MDC) launched its associate degree program last August and immediately had 285 students sign up; for spring semester, that number has been 450, says Antonio Delgado, vice president, innovation and technology partnerships, adding that the average student has been a working professional aged 36 — which he did not anticipate. The school will roll out a bachelor's degree starting this coming August.

"People are getting scared about, 'Is AI going to take my job? What do I need to know?'" he says. "This speaks volumes about who is the audience. These are people — most of them have a degree — they're coming to learn skills. There are no prerequisites. After the first couple of classes, they get hooked. Next semester, many will continue into the next wave of courses. We expect a strong cohort for the bachelor's."

AI will affect virtually every industry and potentially every job, Delgado says, adding that his school, Houston and Maricopa all take different approaches based on their respective employment bases.

"The application of AI [programming] depends on your local community," he says. "Advisory committees will help you decide — you need feedback from industry and employers. It's not just copy-and-paste, but understanding, what are your local needs?"

To succeed, community college AI programs need faculty buy-in and upskilling, Delgado says.

"We cannot compete with the salaries that AI professionals get," he says. "You need to upskill faculty champions who are willing to go through professional development training."

While universities have been offering AI programming at the master's or Ph.D. level for years, community colleges have a role to play in demystifying the field and putting it in everyone's hands, Delgado believes.

"We're removing the prerequisites," he says. "At the university level, you need calculus or advanced computer science. At the community college level, we're

saying you don’t. … Part of the trial-and-error is to understand, what is the boundary? We are playing with that and testing it. Everyone needs to understand AI. To get into more advanced courses, yes, you need to know some math and some programming.”

Ultimately, Delgado adds, “The main purpose why the three colleges came together is because we wanted to give back to the community college community — not just great information, but, ‘Then what?’”