John Boccacino:

Hello, and welcome back to the 'Cuse Conversations podcast. I'm John Boccacino, Senior Internal Communications Specialist at Syracuse University.

Adam Peruta:

This is something that's going to affect every single student in most jobs, and so I feel that if we are not teaching students about how to responsibly use AI, and that comes with all the ethical and legal considerations, we're probably doing our students a disservice. If you look at what industry is doing, and much like we on campus are getting access to tools and the training and learning how to use them, industry is doing the same exact thing. And I'm hearing from alumni that there's kind of a baseline that they're expecting new hires to come in with a certain amount of AI skills, or at least understanding. I think it's important that we lean into it.

John Boccacino:

Artificial intelligence, or AI, is everywhere in our daily lives, and while most AI tools are designed to improve our lives, it can take time and proper training to really learn how to utilize those tools for their intended purposes. We are back here on the Syracuse University podcast talking about how higher education is currently at a crossroads with AI, and how important it is that institutions like Syracuse University teach AI literacy to its students, faculty, and staff.

That leads us to our guest on this episode of the 'Cuse Conversations podcast. He is Adam Peruta, Associate Professor of Magazine, News, and Digital Journalism in the S.I. Newhouse School of Public Communications. Through his teaching and research, Adam explores issues surrounding AI, like how generative AI will impact the future of the media business, and how media and communications professionals must adapt emerging technologies. Recently, Adam was named a Dean's Leadership Fellow, where he will focus on artificial intelligence and emerging technologies. Who better to join us on the podcast to discuss the state of AI on campus, give some helpful tips and best practices for our university community on how to best use AI, and share what steps Syracuse is taking to educate our students, faculty, and staff on AI. Adam, thanks for making the time to join us today.

Adam Peruta:

Thanks, John. I'm excited to chat. This is certainly an exciting topic to get into.

John Boccacino:

Before we kind of go into the meat and potatoes of the episode, give our audience just a little background on yourself, your research, and how you came to Syracuse.

Adam Peruta:

Yeah. I've been a faculty member here full-time at the Newhouse School for the past 12 years. I'm kind of, I guess, a Syracuse lifer at this point. I have two degrees from the university, so I bleed orange. I think it's a special place, especially the Newhouse School. It's a special place to be associated with, whether you're a student, faculty, or staff member, so I love it here. And yeah, as you mentioned, I'm the program director for a grad program called Advanced Media Managements, and while there are other media management programs at other schools, what makes ours a little more unique is the focus on emerging technology. And for the past almost three years, there's been nothing bigger going on in the world than AI, and so we have some new course offerings, and our events and speakers and panelists and everything that we do is really right now just heavily focused on AI, because at least for our students at the Newhouse School in media and communications, it's the one thing that is going to impact their future jobs and roles the most.

In my lifetime, and actually most of this has been here while I've been associated with the university in some way, but in the mid-'90s, I saw the introduction of the World Wide Web for public use, and that really changed the world in some crazy ways. And then in the early '00s, we saw the rise of social media and that also did the same thing, and some people would argue that social media maybe changed the world for the worst. And then in the 2010s we had mobile media and mobile phones, and all of a sudden everybody has a production studio in their pocket. And so those were, I think, very key eras or moments in how technology has changed the world.

And right now, we're going through another big transformation here with artificial intelligence. And my personal opinion, I think AI is underhyped, and what we're going through right now and about to see is maybe even more important, and going to have more of an impact than those previous three things that I said. Maybe even combine those three things, and AI is probably even bigger than the three of those put together in terms of the impact that it's going to have across the board.

John Boccacino:

I kind of want to start off with an overarching broad question for you. In your perspective, explain what we're talking about specifically when we talk about artificial intelligence.

Adam Peruta:

Yeah. That's, I think, an important question, because AI has been a thing for decades. I mean, the term was coined in the 1950s, but the reason why that we are all hyped up right now is because of what happened on November 30th, 2022, and that was the introduction of ChatGPT for public use. And so, that date certainly wasn't the start of AI, but what it was is, it brought the attention to something called generative AI, which falls under the larger umbrella of AI. And when we talk about generative AI, we're really talking about the ability to create content that didn't exist before. That's why we're all hyped up, and that was a big shift on that date in 2022.

But again, generative AI wasn't created on that date. It's a technology that was created by Google in 2017. AI, and especially again, from my lens, AI in media and communications is nothing new, right? Your Netflix recommendation algorithm, your Amazon product recommendations that you see, all that is powered by AI. It's not generative AI, but it's certainly AI. If you are a, say, Adobe Creative Suite user, and you use a tool like the Magic Wand in Photoshop, it's powered by AI. Again, it's not generative AI, but it is a form of AI. Those ads that follow you around the World Wide Web from one site to the next to the next, and to your social media platform of choice, that algorithm, right, it's all AI, so this concept of AI in media and communications, definitely not anything new.

But the generative AI is what we've been really heavily focusing on for the past, almost, three years now. And the last thing I'll say about this is, since that date, a lot of people have been saying, "Oh, generative AI, generative AI," to make the distinction. But I think now, three years, three plus years into it, everybody's just tossing around the term AI very generically, and so that does cause some confusion in some context. But yeah, it's important to know that generative AI is kind of one thing that just happens under the larger umbrella of AI.

John Boccacino:

And then to make the parallel to the other side of the coin from generative AI, we have a agentic AI. Could you explain a little bit about what separates that from its predecessor in generative?

Adam Peruta:

Yeah. Well, agentic AI is really just an evolution, and so in the most non-technical explanation possible, agentic AI really refers to an AI system that operates autonomously without human input. So right now, most of us are used to going to ChatGPT or Gemini or Claude and putting in a very specific prompt to get

an output. Well, with agentic AI, you're just giving the AI a goal to accomplish, and then it figures out the steps that it needs to take to accomplish that goal, and then it executes all those steps, and all this is happening, really, without human intervention.

And so, it was said at the beginning of this year, 2025, saying agentic AI, this was going to be the big thing for 2025. And while there's certainly a lot happening in that space, it's really not very mature yet. We're still trying to figure out ... A lot of people can't even agree on the definition of what an AI agent is, so it's still sort of early days for agentic AI, but if the space interests you, it's definitely something to go a little bit deeper on and pay attention to.

John Boccacino:

I know you mentioned 2022, the release of ChatGPT. Go back to that date, and just how big of a landmark moment was that for really opening the floodgates? Because it seemed like we went from predictive text, finishing your text messages or your Google searches, to this whole avalanche and onslaught of AI tools.

Adam Peruta:

Yeah, it was huge. I mean, for me, it was the type of thing where it was like, "Okay, what's my schedule for the next couple of hours? I'm going to clear it and I really need to focus on this," because it was pretty, pretty mind-blowing. The other thing I'll say too is that, as I previously mentioned, generative AI and OpenAI, the company that makes ChatGPT, they had products available before ChatGPT, but the problem was is that to access the capabilities, you had to be a developer, right? You had to understand what it meant to work with an API to enable to build the ChatGPT or the AI capabilities into whatever it is that you were working on.

And so, November 30th, 2022 was what I would call a really amazing use case for the user experience when it comes to a digital product, because they built this chatbot on their technology and instantly made it available to millions of people that couldn't access it before. So, I also point to this date as a really good example of delivering a digital product in a format that everybody can easily understand how to use, and that is part of what led to the mass adoption.

John Boccacino:

What was it about artificial intelligence and the whole field that really appealed to you? How did you get started down this type of work?

Adam Peruta:

I've always been somebody who's been attracted to emerging technologies, for whatever reason. Part of my background is as a product developer, and designing user interfaces and coding. And so me personally, I get a lot of gratification out of solving people's problems by giving them some sort of digital product that they can interact with and use, whether it's a website or a mobile app or an Amazon Alexa skill. I've always been a builder and a creator, and generative AI really has the ability to amplify all of that, pretty, pretty immensely.

And especially when it comes to coding, I mean, all of the big companies that make these frontier models, like ChatGPT or Claude or Gemini, they're all investing a lot of money to make sure that these systems are good at writing code. Because once you can automate the writing of code, then everything else can be piggybacked on top of that, so to speak, and everything else improves exponentially. So, you'll see a lot of these model creators bragging about how good their tools and platforms are at writing code. So for me now, we really live in this world now where if you have an idea, anybody that has an idea for whatever it is, we're pretty much in the space where anybody that has an idea, you can just simply describe it to AI

and see it come to life. Which to me, it makes it a very exciting time to be alive, and especially working in media and communications.

And getting back to the whole digital product development and coding thing, we've been hearing a lot recently here in 2025, this idea of vibe coding, and vibe coding is this term that really refers to exactly what I just said. You may not understand how to write code or be a developer, but you can just simply work your way through building something just with describing in English what you want to build, and then even more describing and prompting to make updates and changes to that thing. And the capabilities right now, I mean, people are building some pretty complex things. I've seen not only mobile apps, but virtual reality spaces, and three-D flight simulators, all by people who claim that they had no development experience before working with generative AI.

John Boccacino:

What are some of the more important factors to consider when it comes to helping our faculty, staff and students become more AI literate?

Adam Peruta:

So from what I've seen on campus, I think Syracuse is trying to attack it from all angles. I know that ITS, they have an AI newsletter where they send out tips and tricks. They're adopting AI tools for faculty to use, and whether that's course development or just add-ons to courses, I know that our chief digital officer is working to also make access very equitable across campus by a mass adoption of a specific tool and platform. So, I think that's really where it all starts is making sure that people have access to quality tools. That's step one.

Step two, then, is training. And again, I've participated in an AI training day that ITS sponsored earlier this year to take it, maybe, from a macro level down to a more specific level here at Newhouse. We now have two new courses that specifically focus on the topics of students that really want to go deep on it, and they can be immersed in it all semester long. And like I said, a couple different topics.

We've also here at Newhouse held internal workshops and training for faculty and staff, and on not just the teaching side, but also the creative side and the research side. We have a whole emerging media day that our Office of Research and Creative has been putting on for the past two years at the end of each year, where faculty members at Newhouse can talk about how they've either been integrating AI into their classroom, or into their research and creative work, so there's a lot of ... I think overall the culture is a lot of sharing. Share your success stories, share your failures. How could we learn from those to move forward? I think overall, the university and individual schools are doing a pretty good job at providing the resources to onboard people to not only learn a little bit more about AI, but also to actually start using it for real world use case applications.

John Boccacino:

When it comes to these tools, it seems like with anything, you have to be comfortable. You have to feel comfortable using the tool to maximize the return. So, what advice would you give, say, if there's a faculty member who is struggling incorporating AI, or there's a student who really wants to find a better way to incorporate AI into their work, how can our campus community become more proficient with these tools?

Adam Peruta:

Just experiment, right? Just experiment. You're not going to break anything. Nothing's going to go wrong. Of course, there's some caveats there and things to keep in mind. But for me, working with AI has become a real thought partner, so any question, concern, issue, problem, anything I'm trying to do, I will invoke AI in some way to maybe help with the brainstorming, run through some initial ideas, drop in some random unstructured notes, and ask for more structuring. Specifically when it comes to integrate it into the curriculum or your teaching, I think we're seeing faculty members using it for simple things like creating discussion questions, down to more complex things like building a new course, building a syllabus, fleshing out learning objectives for that course, coming up with a plan for how class is going to go that day, what their run of show is, so to speak. All the way up to things like, I'm currently working on building some custom chatbots that students will interact with for certain assignments and certain projects.

John Boccacino:

One of the areas that we've heard a little bit about, feedback of a barrier to entry, is just there's some key terminologies that people might have some confusion over. So, I want to have you, Adam, kind of be our expert here. Go through, we've already mentioned prompts, agents, machine learning. Give us some of the key terminology that people should be aware of, and what exactly that means when it comes to incorporating using AI.

Adam Peruta:

Yeah. Well, I think one acronym that you'll probably see a lot is LLM, which stands for large language model, and that really refers to the underlying system behind something like ChatGPT or Claude or Gemini or Grok. And again, I'm going to keep it non-technical here, so when you see that acronym or you hear somebody mention LLM, they're generally talking about a text-to-text generative AI tool or platform, right? So, input text, get text out. And so, what can you do with an LLM? Well, it's often for thinking and communicating. They write code, they do data analysis, and they create content for us. Those are, I think, what I would say are the four main capabilities of any large language model.

Another acronym is RAG, retrieval augmented generation. And again, this starts to get pretty technical, but one of the capabilities of most large language models is the ability for the user to be able to upload documents along with their prompt or their request. And so typically, that all happens through something called retrieval augmented generation, and it really just refers to when you are providing examples along with your prompt. So, it might be an example of a research report that you want it to use as part of the knowledge for this prompt, or it might be showing an example of the output format that you're trying to get for a specific query. So that's RAG, and that's kind of where the magic happens. We get better outputs when we can provide those documents as examples to the large language model along with our prompts.

Another acronym, and again, this industry loves their acronyms, to talk about is GPT. Like, what does GPT stand for? And so GPT stands for generative pre-trained transformer, and that really refers to the technology that makes these systems work. And so, we talked about what generative AI is. That's where the G comes from. The T, the transformer technology, is what Google created initially to make all this happen. But I want to call attention to that P in the middle. The P stands for pre-trained, and really, what that refers to is that these systems don't learn. The large language models don't keep learning. Yes, in one context window or conversation, it might learn some things and change its response based on directions that you're giving, but generally, and it's pre-trained and it's not going to behave any differently. And if you do want it to behave differently, you either have to train a new model, or you can do something called fine-tuning.

But I guess to understand fully what the P means, or the GPT means, let me just step back for a second and talk about how these models are created. So really, in order for them to work, you need a large corpus of data. So right now, the closest thing that we have to the sum of all human knowledge is all the information that's on the World Wide Web. And so, the companies that build these models, they go out and they scrape up every single thing that's on the World Wide Web, every single thing that they can access. So, that's sites like Wikipedia, editorial news sites like the New York Times or Fox, digital books too. Google's been spending 20-something years digitizing millions and millions of books. It could be content from social media sites, other user-generated content.

And so, they didn't ask anybody's permission to use their content. They just went out there, scraped it all up. And then when they have this data, again, non-technically, they can train that data, and they're essentially running their algorithms to create connections between different parts of the data and the concepts, and after that happens, we consider it then to be trained. And there's also humans involved in the loop. Again, I'm trying to keep this very, very simple, but once we have all that data and then it's trained, we can interface with it through a chatbot, for example, and do our prompting or ask questions or whatever it is. But once it's trained, it's kind of set and locked in, and so the models are only going to have certain capabilities. If we want them to, again, have other capabilities or behave differently, we have to train a new model, or we can fine-tune them in certain ways.

John Boccacino:
How do you emphasize using AI tools to detect what is real and what could be fake, like that generated political campaign, if it somehow happened to find its way to the Facebook, for example?

Adam Peruta:
Digital literacy, when it comes to AI, is really, really important. One of my favorite games to play in class with the students is, "Here's an image that was taken by a real human with a camera. Here's one that was AI-generated. Tell me which one is which. Can you tell the difference?" And the tools and platforms are so good, it's really coming down to a coin flip, which is kind of scary. And so unfortunately, or fortunately, depending upon what side you're on, it's becoming harder and harder and harder, and you really got to look. Sometimes it's just like maybe there's a little shadow that doesn't quite look realistic, or there's an object that's just not correctly sized, or the perspective is a little off.

When all this was new, it's kind of easy to tell. AI wasn't good at hands. Hands had six fingers, seven fingers. Well, that problem is long gone. That's been solved a long time ago, so it's not as easy to detect now. On the enterprise level, sure, there are some tools that you can use to detect AI-generated images or not, but the problem is, they're not available to the general public right now, so it's really hard to detect synthetic content, especially on the tech side. It's almost impossible to detect AI-generated writing versus human writing. So yeah, digital literacy, when it comes to AI, is something that we really have to stress, and understand what all this means for misinformation and disinformation, because there's some really amazing capabilities. It's so exciting what you can create, but for all those amazing capabilities, there are bad actors who are doing very bad things with them.

John Boccacino:
What do you think's coming down the pike when it comes to AI? What's next? What are we looking for down the road?

Adam Peruta:
Yeah, so previously you asked me about agents or agentic AI, and I think that's where a lot of the focus is right now, because for the most part and for the casual users, there's a lot of human intervention and action required. And whether that's starting a conversation or editing the results, or taking whatever it is you're making and applying in another application, that's generally how most people are using it right now. But this idea of AI that operates autonomously, it's kind of a scary concept to most people.

And one way that we're seeing this play out a little bit is in new web browsers. So, back in the '90s, we had this browser war between Microsoft and Netscape, and we're starting to see a little bit of that again. But there are browsers that will operate autonomously, so you can prompt the browser, for example, to say, "I've got to be out in San Francisco for this conference on these specific dates. Go out and make all my travel arrangements for me." And hopefully, your browser or your AI system will know that you only like Comfort Plus, and you only sit in the aisles, and it will go out and do the research for you, and if there's a way to save your credit card information, it will go through and do the whole process for you. Instead of me having to figure out, "Okay, where's the conference? What hotels are in close proximity?" All that's going to be completely automated, and I think that's a very easy example of how an agent is going to work for most consumers or the lay person.

But if we talk about agents on the business side, we're going to have agents that are going to be creating and designing ad campaigns based on the data that it has about the company's target audience. And then it's going to launch those ad campaigns, and it might run social media advertisements, and every minute, it's going to be looking at, how are those ads performing? And it's going to redesign the ads. It's going to reallocate budget. And then when the campaign's over, it's going to do all the assessment, and all this is going to happen again autonomously without a human being needed in the loop.

And so, I don't know, in the maybe not-so-distant future, I kind of see a world where managers are going to be managing both human employees and AI agents on their team. Your co-workers might not all be human. And do I mean you're going to be physically sitting next to a robot? No, that's not what I'm talking about, but it's going to be more of software that you're going to be directing or orchestrating.

John Boccacino:
I really want to thank you for pulling back the curtain on this topic of AI, and especially its application and uses here at Syracuse University. Thanks for making the time to join us today.

Adam Peruta:
Yeah, no problem. My pleasure. And I would say, if there's anybody that's listening that wants to continue this conversation, go deeper, or just geek out about those capabilities, just reach out.

John Boccacino:
Thanks for checking out the latest installment of the 'Cuse Conversations podcast. My name is John Boccacino, signing off for the 'Cuse Conversations Podcast.