NATIONAL CONVERGENCE TECHNOLOGY CENTER

Three IT Trends – Fall 2021

The list below summarizes three IT trends discussed by the National CTC's BILT (Business and industry Leadership Team) at the November 2021 web meeting. The purpose of these "trend talks" is to keep faculty – and their students – informed on the ever-evolving IT landscape.

1. Industry continues to embrace automation – The Bureau of Labor Statistics recently reported that by 2030, all Baby Boomers will be at least 65. This shift will lead to a huge focus on automation. Forrester likewise predicted that AI, machine learning, and automation will create 9% of all new jobs by 2025. Specifically, that report referenced jobs like robot monitoring, data science automation, and content curators. One BILT member noted that when he hires new staff, he tells them one goal is to "automate themselves out of their current job." They're wasting hours if they're performing a redundant task that could be automated. This ongoing push towards automation is an industry-wide trend.
Learn more: https://www.forrester.com/blogs/predictions-2022-the-pandemics-wake-drives-automation-trends/

2. "STEM" is shifting to "STEAM" – The "A" adds arts into the traditional STEM fields of science, technology, engineering, and mathematics by emphasizing creativity. One BILT member stated that sometimes people in the arts do better at troubleshooting and problem-solving because they can think outside the box. That can be a hard skill to teach. One educator noted that the "A" is important because of the role it can play in boosting employability "soft" skills with its emphasis on communication and emotional intelligence. Some programs embrace STEAM through inter-discipline projects. One BILT member told the story of an English instructor who plans to use AI to analyze the text from Harry Potter novels to better understand the author's choices. All students – even liberal arts students – should learn how to do these kinds of analyses. The left brain (logic) and the right brain (creativity) need to be "thinking together."
Learn more: https://www.ucf.edu/online/engineering/news/comparing-stem-vs-steam-why-the-arts-make-a-difference/

3. Containers save money and offer flexibility – Think of a rideshare app and all of the functions and services provided to the customer. Those API microservices (https://www.ibm.com/cloud/learn/api) are valuable only when tied together by a service mesh. It all falls into a single container that "owns everything" and allows the app to work on a user's phone. Originally, microservices communicated across platforms and cloud providers like AWS would charge processing fees. But if you can keep everything inside a container, then you're only paying the local processing fees, not the larger network processing fees. Costs are important as new technologies emerge. Containers also increase portability. Like APIs, containers – if well-developed – can be plugged into different parts of a business. You don't have to go to a re-developer. Adoption happens quickly for technology that increases value and decreases cost. IT students won't develop containers, but their employers will use them. Graduates may be asked to tie containers to a service mesh. Mid-sized and smaller companies might end up buying containers "in a box."
Learn more: https://www.vmware.com/topics/glossary/content/container-networking

For a deeper dive into these topics and others, download the November 2021 BILT meeting minutes, which can be accessed for free here: https://nationalctc.nationalctcwiki.org/bilt.