



The list below summarizes IT trends mentioned by the National IT Innovation Center's BILT (Business and Industry Leadership Team) at the November 2024 job skills prioritization meeting on data analytics and the January 2025 cross-disciplinary trends meeting. The purpose of this summary is to keep faculty – and their students – informed on the ever-evolving IT landscape.

1

Businesses worry about providing intellectual property (IP) to AI models. AI is only as good as the data it has, which means AI models often need access to IP to perform tasks and solve problems. “How can you use IP with AI and be confident it won’t be shared outside of the company?” Companies must strike a careful balance and consider “data segregation” to keep certain data safe and secure.

Learn more: www.wipo.int/export/sites/www/about-ip/en/frontier_technologies/pdf/generative-ai-factsheet.pdf

2

Students need to know how to handle sensitive data sets ethically. One employer noted it’s often the combination that creates risk; two data sets are safe to work with separately, but combining them together makes them more sensitive to compromise. Students should consider questions like “What is the category of data you’re working with?” and “What is the risk associated with that category?” Employers agreed students don’t need to understand specific standards like GDPR and HIPAA. Instead, programs should focus on teaching more general ethical concepts and decision-making.

Learn more: www.datacamp.com/blog/introduction-to-data-ethics

3

There is no clear consensus on the value of R. One employer considered R a “currently supported programming language” but admitted that could change, while another suggested students who don’t have exposure to R will be “disadvantaged.” On the other hand, one employer called R not ideal for “high expert” levels of work when compared to Python. The BILT seemed to agree Python and R each have pros and cons; choosing depends on the kind of data you’re using. Schools should consider the preferences of local employers when adjusting curriculum.

Learn more: www.ibm.com/think/topics/python-vs-r

4

Agentic AI is coming. Generative AI – tools like ChatGPT or Midjourney – creates content, but agentic AI acts on that content. This goes back to the point above about the risk of sharing IP with AI models; businesses ultimately will want AI to make decisions and take action. However, one employer noted the possible danger of agentic AI errors in autonomous vehicles where mistakes put lives at risk.

Learn more: blogs.nvidia.com/blog/what-is-agentic-ai/

5

Employers want students to know more IT fundamentals. One employer complained his new hires lack an understanding of basic IT concepts. As his employees retire, he is losing key skills. Students need to know the underlying technology. Even with all of the technological advances, fundamentals don’t change. The BILT endorsed project-based learning to encourage student collaboration across discipline silos. What if there was one big overarching project that students worked on for two years?

Learn more: www.coursera.org/articles/key-it-skills-for-your-career

For a deeper dive into these topics and others, visit NITIC’s BILT page, which can be accessed for free here: www.nitic.org/industry/national-bilt/bilt-overview.