Data Skills: Empowering the Future Workforce for an AI World

A free resource guide for university leaders and instructors to support data literacy and become AI-ready

What does data have to do with AI? Everything.

In the past six months, how often has AI come up in conversations at your university?

While AI is not new, ChatGPT – a generative AI-powered chatbot – has captivated the world by drawing attention to the potential of AI. This has sparked conversations about the benefits and risks of AI – ranging from how AI will transform jobs and education to how it will impact our daily lives.

As a leader in academia, you are in a unique position to guide your institution through this unchartered territory and ultimately, to educate and enable students through this transformative time.

But where do you begin?

While the level of AI literacy needed for students and instructors varies by discipline, data skills have emerged as a crucial first step in any AI journey because of data's integral role in AI technologies. A Forbes Insight survey highlights the link between data literacy and AI use, citing data literacy as a top barrier to successfully implementing AI.

We believe that championing the importance of data literacy for students today will prepare them for the AI world of tomorrow.

For over 10 years, Tableau Academic Programs has enabled more than 2.5 million students and teachers from accredited institutions around the world with free resources to build critical data skills.

Now, as we move into an era powered by AI, we are sharing tips, resources and information to help give you, your instructors and students more confidence as they explore this new technology and its impact on their future careers.

Let's get started.

70%

Employees expected to heavily use data by 2025, up from 40% in 2018 [1]

62%

Employees say generative AI will require a new set of skills at work [2]

AI skills ranked amongst top 3 digital skills by nearly one-fourth of global workers [3]

84%

of global workers consider skills-based experience more important than a degree when trying to land a job in today's market

Tableau, from Salesforce, is the world's #1 visual analytics platform. We transform the way people use data to solve problems. Learn more at www.tableau.com.

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AI is powered by data.

Before generative AI wowed the world, numerous organizations were dabbling with AI technology.

Take your iPhone's facial recognition and Siri for example, or the recommendations on your ecommerce platform of choice. We've also seen some concerning examples of AI such as Amazon's biased recruitment algorithm that was built in 2014, but eventually scrapped according to a report from Reuters.

Today, organizations are more eager than ever to capitalize on the value of AI. However, to do this successfully and mitigate risk requires a data literate workforce.

According to Harvard Business Review, when employees across all roles have the ability to understand and question data, as opposed to only the technical team, the company benefits from diversity of thought and expertise and can mitigate risk of algorithmic bias.

It's easy to get swept up by the buzz around AI, but it's important to remember that data is at the heart of AI.

Grounding all students with a fundamental understanding of data, such as how it is collected, analyzed, and communicated plays a critical role in their ability to confidently participate and contribute in the future of AI.

Get Started
- **Get Started with AI** – Get to know the fundamental concepts of AI and the tasks that it can perform.
- **Generative AI Basics** – Discover the capabilities of generative AI and the technology that powers it.
- **AI Fundamentals Short Course** – Learn the foundation of AI, how data plays an important role in AI, and mitigating biases in data.

"In an era where data fuels AI-driven advancements, data literacy is the key to unlock your AI-readiness. Proficiency in quantitative skills not only empowers individuals in many contemporary professions but also serves as the foundation for releasing the full potential of AI."

Dr. James Abdey,
Associate Professor, Course Convenor & Academic Coordinator, LSE Data Analytics Career Accelerator

Faculty are at the forefront of nurturing data literate students, but according to an opinion piece in Inside Higher Ed, too few have the knowledge and expertise to teach data skills.

Because data is relevant to nearly every job today, all faculty should have an understanding of basic data literacy, regardless of discipline. A recent article on Ed Post asks an important question: "How can we expect our future teachers to teach their future students data skills they themselves never learned?"

Empowering instructors to develop data skills and confidently bring these to the classroom is crucial in this new era of AI.

So what does this look like in practice? It's a world in which instructors are:

- Building data skills for themselves
- Learning techniques on how to teach data skills to others
- Developing an understanding of how to incorporate data skills into their existing curriculum

As part of Tableau Academic Programs, Tableau for Teaching provides free access to our software, eLearning and other resources specifically designed to help instructors learn at their own pace and tap into free ready-made courses and modules across a number of subject areas.

And they won't be alone.

Our incredible Tableau Community – made up of millions of data people around the world – means instructors can get help, find inspiration, and ask questions as they learn.

"The leaders of tomorrow have to understand data. Tableau, being the most accessible software for students and with the high quality help online plus an active community, fit all the requirements for a new approach to data analytics in our school."

Sandra Richez, Director, EDHEC Global MBA

Get Started
- **Tableau for Teaching** – Free access to software, eLearning, curricula, and resources for instructors.
- **Tableau Community** – Learn more about our global community of Tableau users passionate about data visualization, analytics, and data storytelling.

Incorporate data skills into every classroom.

AI has the potential to transform every industry – from medicine to agriculture. For universities, incorporating data skills across all disciplines is a strategic move to empower students to thrive, not just in an AI-powered job market, but in any job.

To stay competitive and boost the employability of new graduates, now is the time to make data skills part of the mainstream curriculum.

A study from University of South Florida supports this argument, identifying data literacy competencies important for all undergraduates. This includes the ability to interpret and critically evaluate data.

Embedding such skills across disciplines ensures that all students have a baseline understanding of how data and AI are shaping their respective fields.

To help instructors do this efficiently and effectively, we've created ready-made curriculum on topics such as Data Literacy, Tableau Fundamentals, Data Visualization, and AI Fundamentals, all centered around teaching data skills within any discipline.

Instructors can choose from lectures, assignments, tests, and case studies to integrate into their existing courses, making it as easy as "plug and play".

"The market needs more people with digital skills, and especially skills to process and visualize large data sets that exist today. That's why we broadened our offering to teach these skills to students across disciplines."

Dr. Davood Shojaei, Senior Lecturer,
Department Of Infrastructure Engineering, University Of Melbourne

Get Started
- Tableau Curriculum – Refresh your lectures with free ready-made curricula.
- Academic Case Study – Read how University of Melbourne is giving its students a competitive edge with Tableau.

Empower your students.

In the world of AI, data skills give students a competitive advantage regardless of the industry or role they pursue. Yet, a Forrester study commissioned by Tableau, reveals the demand for data skills exceeds the supply.

Put simply: there is a skills shortage.

As part of our Tableau Academic Programs, Tableau for Students is designed to help students learn and develop data skills with our free software and learning resources. Since 2011, over 2.5 million students have leveraged this program, with many citing that their knowledge of Tableau specifically helped to land their dream role.

And, like instructors, students are not alone in their learning journey.

The 2022 Tableau Academic Ambassadors, a cohort of data driven students from universities around the world, help others go from beginner to expert through speaking, teaching, and hands-on workshops geared towards new learners.

When it comes to hands-on learning, leading universities know the value of partnering with industry in order to give real-life work experience and inspiration to students learning data skills.

Take EDHEC Business School – they partner with Mazars and UNICEF to deliver an annual Student Dataviz Challenge. The challenge gives students an opportunity to get hands-on with a data set and show off their data visualization skills, while raising awareness of social or environmental issues.

London School of Economics has partnered with FourthRev to build out new programs like the LSE Data Analytics Career Accelerator. The six month accelerator focuses on building data visualization skills using Tableau and is so successful that they have expanded the program after only one year.

Get Started
- **Tableau for Students** – Free access to software, eLearning, curricula, and resources for students.
- **Tableau Student Ambassadors** – Learn more about our Community of students who teach, connect, and inspire.
- **EDHEC Business School** – Learn how professors at EDHEC motivate and inspire students with data skills.

"My proficiency in data and AI skills has been a transformative force in my career and life. They've enabled me to make strategic decisions backed by data-driven insights. In an era where data is gold and AI is the future, these skills have created – and will continue to create – incredible opportunities."

Rohit Prasad,
Technische Universität
Chemnitz Student

AI and ethics: Charting a responsible future.

By now, many of your faculty and students will have seen the benefits and challenges of AI, especially as it relates to how biases can be perpetuated based on the quantity and quality of data, or the prejudices of the people building the algorithms. This analysis by Bloomberg highlights the potential harm of AI.

The question is, what do we do with this information?

Openly discussing the ethical and practical implications of AI with students and how data can impact the output is not only important, it's essential.

As educators, you have an active role in shifting the narrative from "AI is full of inaccuracies and biases" to instilling students with the confidence to ask great questions, understand inaccuracies, and how to improve outputs.

Ensuring students across all disciplines have fundamental knowledge of data and its impact on AI allows for more diverse minds to be able to participate in the discussion and responsible innovation of AI.

At the institution level, policy considerations should be discussed to guide instructors and students on the ethical and responsible use of AI.

At Salesforce, we have a dedicated AI Research ccenter sharing the latest resources to help frame conversations about using AI responsibly, accurately and ethically. In addition, guidelines published by UC Berkeley, University of Pennsylvania, and Yale as well as guiding principles drawn up by UK universities are useful examples of how other leading universities are approaching AI.

"**Ultimately, the successful integration of AI into the workplace will require collaboration and dialogue between industry, academia, and government to ensure that AI is used in a way that benefits society as a whole. By staying informed and proactive, we can navigate the changes brought about by AI and create a future of work that is both efficient and equitable.**"

Prof. Ahmed Banafa, IoT, Blockchain, AI Expert

Get Started
- **Data Fundamentals of AI** – Learn the importance of data and ethics to prep for the AI innovation shaping our future.
- **Responsible Creation of AI** – Remove bias from your data and algorithms to create ethical AI systems at your company.

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About Tableau &
Our Commitment

Tableau, from Salesforce, is a visual analytics platform transforming the way we use data to solve problems – empowering people and organizations to make better decisions with data.

Everything we do is driven by our mission to help people see and understand data. We've made Tableau so intuitive that it can be self-taught by instructors and students alike.

Supporting our mission, Tableau Academic Programs has enabled more than 2.5 million students and teachers from accredited institutions around the world with critical data skills for the past 10 years. Now, as we move into a new era powered by AI, we are committed to opening up dialogue and building resources for learning and better understanding.

We're in this together.

Resources To Learn More
- **Tableau Academic Programs**
- **Tableau for Teaching**
- **Tableau for Students**
- **Tableau Academic Programs in the Classroom**
- **How to Request a Tableau for Teaching License**

1 Source: "Building Data Literacy: The Key To Better Decisions, Greater Productivity, And Data-Driven Organizations", Forrester Consulting (Commissioned by Tableau)

2 Source: Generative AI Snapshot Research Series, Salesforce

3 Source: Digital AI Skills Research, Salesforce

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