

The sports industry is increasingly embracing technology and innovation, and data analytics plays a central role in this transformation. From player tracking technologies to advanced statistical models, sports data analytics professionals work with cutting-edge tools and techniques to extract meaningful insights. This dynamic and evolving nature of the field allows for continuous learning and development of new methodologies.

Sports Data Analytics is the collection and study of sports data to ENHANCE player performance, INFORM recruiting or sports broadcasting, INCREASE sales and team revenue, etc.

Throughout this Expedition, you will LEAD YOUR LEARNING by fully engaging with the resources and activities. You will be asked to -



- **REFLECT** about your skills, learning goals, and purpose
- **STRETCH** your knowledge and skills through active learning
- **INNOVATE** and iterate solutions for real-world challenges
- **SHOWCASE** your innovations and learning in a dynamic way

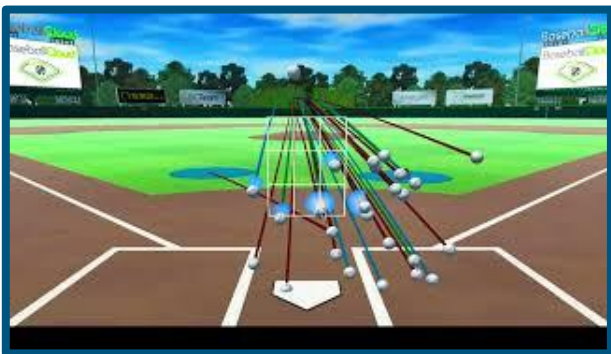
We encourage you to utilize our [Expeditions Idea Book](#) as you navigate this Expedition as a resource and space to get your creativity flowing, organize your ideas and research, and share your innovations and reflections.



Every so often you may see this briefcase icon. That indicates an opportune time to have a conversation with a mentor or local business leader to discuss industry trends, ideate solutions, solicit feedback, and/or present your project. (Speak to your educator if you need support making contact.)

REFLECT

As you watch [this video](#), think deeply about these questions:



- What excites you about sports or sports performance?
- What skills or traits would help you succeed in a career in sports data and analytics?
- What parts of Chris's work can you see yourself doing in the future?
- What else would you like to learn about this field?

Meet Chris Rodriguez, the Director of Baseball Operations for Jacksonville University. He handles daily operations, data, analytics, and technologies to aid player development. He also served in the Arizona Diamondbacks organization in technology, scouting, analysis, and developing pitch design protocols for minor league players.

WHY A CAREER IN SPORTS DATA ANALYTICS?



The field of sports data analytics is experiencing significant growth and has become an integral part of the sports industry. Teams, leagues, and organizations are increasingly relying on data-driven insights to make informed decisions and gain a competitive edge. The demand for professionals with expertise in sports data analytics is high and is expected to continue growing. The potential for earning and growth in this career is significantly higher than many other industries. Check out these statistics:

\$103K

median annual wage

33%

job outlook through 2030

\$372B

expected job growth by 2028



Whose expertise can you tap into to learn more about this career? (Think about professionals in your network, existing videos, webinars, guest speaking opportunities, etc.)

Meet Dr. Katherine Evans, the first woman in the NBA to head an analytics department.

[Follow her on Twitter](#), or watch her story [here](#).



OPPORTUNITY ALERT!



The vision of the Sports Analytics Club Program (SACP) is to develop a nationally recognized network of several hundred Sports Analytic Clubs with incremental expansion of programs to include options in Sports Journalism, Sports Architecture/Engineering, and potentially Sports Science. [Reach out](#) to see if you can start a club at your school?



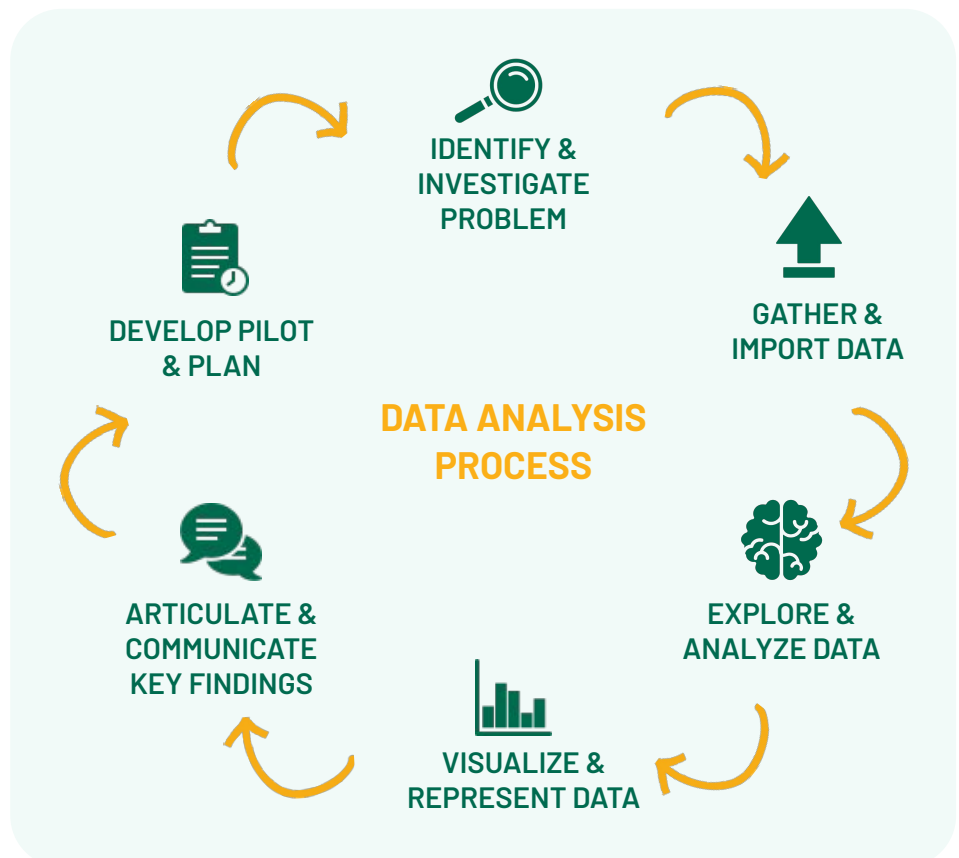
STRETCH

Expand your knowledge and skills by trying some of these activities:

- Discover [how data transformed the NBA](#).
- Research current [data-gathering technologies and data visualization tools](#) to track player or team performance.
- Learn [how to import sports data into Excel and create data models](#).
- Explore how sports tracking technology can mitigate racially coded language in [Soccer Looks Different When You Can't See Who's Playing](#).
- Get inspired by [Tiffany Kelly, a STEM leader and the first black woman to join ESPN's analytic team](#).
- Consider how [data tracking of athletes can test ethical boundaries](#) and practice empathy as you collect and share data.
- Check out the [Speed Needed in Softball](#), an archived video from ESPN's Sports Science, to discover how data inform science.
- Learn more about [sports data analytics through Hevo](#).

What are some resources you can find that relate to your interests in Sports Data Analytics?

Have you ever wondered what process sports data analysts use as they work? Take a look at this process graph, and see how it can support your project/innovation.



Adapted from: [The Life Cycle Phases of Data Analysis](#)



INNOVATE

Identify a problem in your community (school, local, state, or global) or this industry, then innovate ways solve it...or you can use these options:

Make a case for your favorite athlete to be inducted into their sport's Hall of Fame using performance data. Analyze existing [free data sets](#) and create compelling [visuals of the data using software](#) of your choice

Create a new product (digital or non-digital) that would solve the problem you have identified. (Consider designing, wireframing, or prototyping using platforms like [Lucid](#), [ProtoPie](#), or [Figma](#), or code an app in [MIT App Inventor](#).) You can develop shooting charts or a [expected goals \(xG\)](#) model using [Python](#) or [R Studio Coding](#).

Create a dream team to represent your favorite sport. Collect and gather player stats and analyze them using data science and [machine learning tools](#). For an advanced-level project, create two teams, simulate a game or match, and determine which team would win.

Predict and project outcomes for potential draft picks for the next draft of your favorite sport.

- Examine metrics (physical and performance) for a small set of players to determine whether they would be an instrumental addition to the team.
- Analyze the data, and create draft scenarios using a [free data visualization tool](#).

Create a movement at your school or community to amplify this industry or the skills sets needed to succeed in this field. You can start a chapter for a Career & Technical Student Organization (CTSO) or professional organization related to this field, host a college/career fair or local competition to highlight this industry. How about doing community outreach using or teaching creative coding? The possibilities are endless!

Perform some user testing on an existing sports data product and think of ways to remix and improve it for diverse users. Is there a practice or product that has a flaw you'd like to fix? Consider diverse users, then use that feedback to improve and recreate a product.



PRO TIPS:

- If the choices above don't appeal to you, you can create-your-own or generate ideas by exploring hackathon sites like [hackclub](#) or [devpost](#).
- As you ideate, consider using [customer journey mapping](#).



Is there a mentor or industry partner who can discuss the Engineering Design Process or UX Design Process to support your innovation? How can you gather mentor feedback as you iterate and innovate?



SHOWCASE

Once you complete your innovation, share your learning with the with an audience in one or more of these ways:

Why not plan a showcase where you and your peers can share presentations with the whole school, at a parent night, or for a panel of industry professionals?



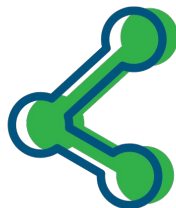
DIGITAL PORTFOLIO OR SITE	Create, code, or build a simple webpage to highlight your innovation, project, and learning journey. Consider bulb digital portfolios, Replit, GitHub, Google Sites, or Wix. Once it's developed, present it to an audience, and solicit feedback.
ONLINE MEDIA	Create a blog, vlog, or social media campaign (LinkedIn, YouTube, etc.) to highlight your innovation, project, and learning journey. Feel free to tag @nafcareeracads.
PITCH IT!	Pretend your audience is a group of team owners or coaches. Pitch your innovation to them, sharing what you learned in the process. Allow for a Q&A, then solicit feedback on the quality of your project and/or pitch.

PRO TIPS:



- Level up your project by entering a school or district competition or challenge. (Think the science fair, CTSOs, hackathons, etc.)
- Not interested in options from our Showcase menu? You can present your creations in a format of your choosing.

STUDENTS, SHARE YOUR INNOVATION!



NAF would love to see your creation! After you get your educator's permission, submit yours [HERE](#). We may highlight you on social media!

(We WILL NOT share your work without your educator's and your approval.)