Case Study: Cincinnati Reds Baseball Team

Cincinnati Reds Baseball Team

Cincinnati Reds set to rebuild game success with data science driven by Z by HP

The Cincinnati Reds baseball team is an HP customer, and has received funding and donated equipment from HP.

Embarking on a new era of success

Great American Ball Park on the Ohio River is home to the Cincinnati Reds, founded in 1869. The club has undertaken a rebuilding effort to improve on-field performance with investments in player development, onboarding new talent and enhancing its coaching staff. In addition to on-field, the team's management has taken an innovative approach to improving its technology infrastructure and the diversity of its baseball operations staff.

One example is its internship program designed to find and nurture the best professional and diverse talent. Many former interns have been hired into full-time roles, both with the Reds and other baseball clubs.

Each year, four to eight students and recent graduates pursuing sports-related, management or technical majors across the US, are selected to spend up to 10 months experiencing a variety of roles within the baseball operations department. Currently there are eight interns comprising a mix of ethnicity and gender. Three interns are in the Baseball Analytics department, all of whom are diverse. The department is headed up by Nick Wan, Cincinnati Reds Director of Baseball Analytics, who also runs the Baseball Analytics internship program. He says, "We aim to draw our interns from a broad social, cultural and gender range and give them the skills, experience and opportunity to become the best full-time candidates who we can hire. Traditionally, baseball has been male dominated, so we aim to improve diversity when promoting internship positions to better reflect the diversity of the community."

INDUSTRY

Sports

OBJECTIVE

Develop the data and information needed to help rebuild on-field performance and increase diversity and inclusion to attract new managerial talent

APPROACH

Delivers a partnership with Z by HP comprising high-performance computational power and funding to help improve game performance supported by a diverse and inclusive internship program

From 1GB to 50TB of data a day

The Analytics department is tasked with providing quantitative and objective measures of on-field performance and player development. Data comes from a variety of sources including information provided by Major League Baseball and numerous third-party sources. For example, every MLB stadium has 12 cameras which provide player-tracking information, type and movement of pitches, how hard balls are struck and at what angle. Other key data includes environmental information, including how altitude impacts the movement of the ball.

Wan says, "Our data requires heavy statistical modelling. Compared to 20 years ago, data has grown exponentially. We used to ingest about 1GB of data a day; now it is between 30TB and 50TB. Including the MLB level, there are six levels of data that must be processed, as well as analyzing amateur and international baseball."

At one time, teams like the Cincinnati Reds relied on accumulated knowledge and experience and while that is still important, data is now a critical part of performance improvement.

HP plays ball by providing products and funding

"Data is now a major driving force in baseball" explains Wan. "The need for computational power and predictive analysis is a competitive advantage. We take a blended approach that combines data analysis with coaching and scouting experience."

But Wan had a problem. The existing computing resources were no longer fit for purpose. He says, "Our analytics projects required more and more hardware resources. Because of that, we relied heavily on cloud processing."

The solution to the challenge came about through Wan's association with global technology leader HP, where he happens to be an ambassador for Z by HP. The high-performance Z by HP computers are designed specifically for processing huge volumes of data typically used in data science applications such as 3D imaging, statistical analysis and data modelling. After discussing the challenge, HP decided to partner with the Cincinnati Reds on a package comprising Z by HP technology and sponsorship. One of the key tenets of the partnership is technology that improves baseball analytics capabilities at the Reds and supporting an internship program that offers diversity, equity and inclusion.

> ***"Z by HP has made us better able to support and provide better, faster and reliable analytical information to the club. And maybe we can find a key bit of data to help a player throw faster or hit the ball harder that contributes to rebuilding the Cincinnati Reds and delivering better on-field performance"***

NICK WAN
Director of Baseball Analytics, Cincinnati Reds

High-performance data science

The Z by HP devices include a Z8 G5 desktop with at least 2 CPUs and four HP ZBook Studio G7 laptops used by Wan and the three interns in the Analytics department. The devices came pre-loaded with the Z by HP Data Science Stack Manager, a set of data science software tools. The club combined this hardware with its existing in-house, baseball-specific data analysis applications.

"The aim of the HP relationship is to help the Cincinnati Reds increase diversity and inclusion. To attract the best, diverse talent we need to scale our efforts and promote ourselves in places that other teams cannot reach," says Wan. "Once we have found the talent, the other part of the HP partnership is supporting and enhancing the intern experience."

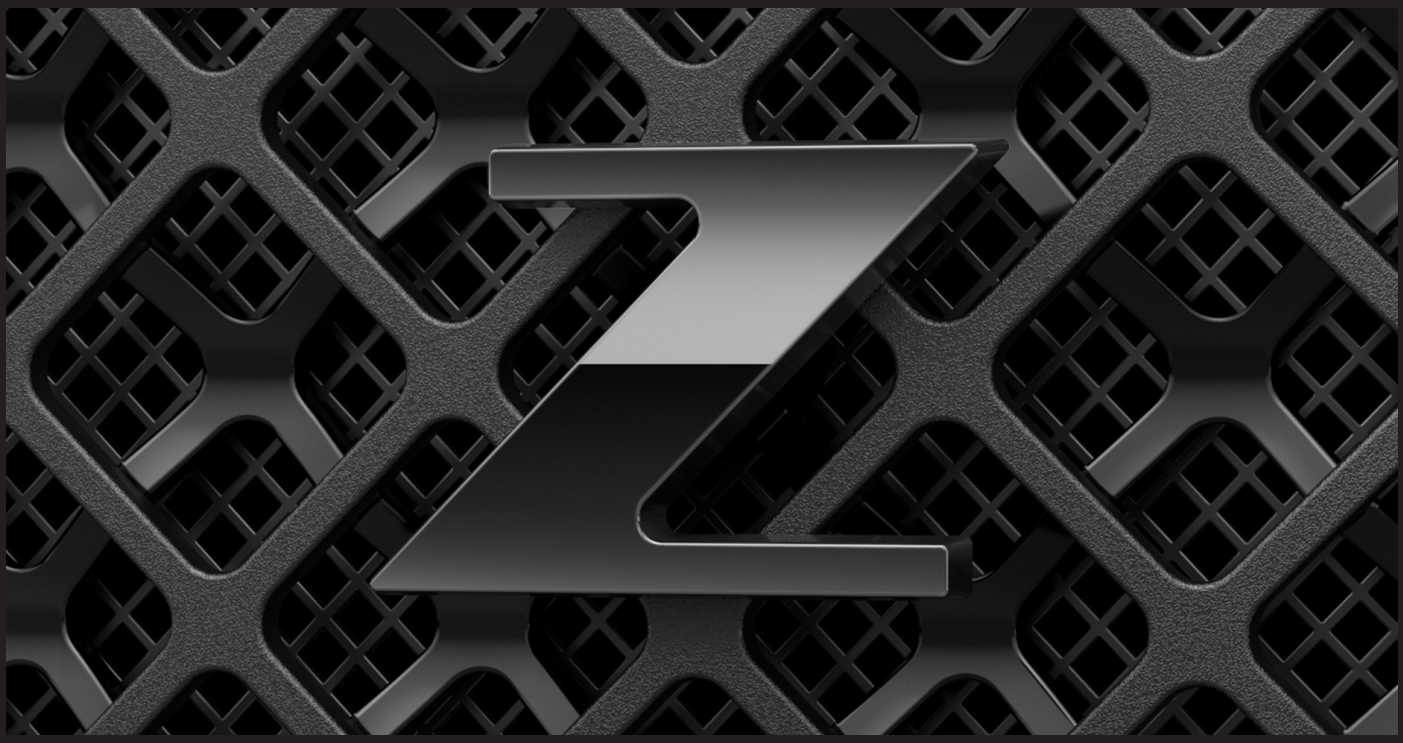
Z by HP support is starting to have a profound impact on data analytics at the Cincinnati Reds and on the internship program.

"Just in terms of hardware processing, the Z by HP devices are a huge benefit," Wan notes. "The fact that we can have multiple sessions running simultaneously and do so on our own dedicated computing platform is a significant advantage," Wan notes.

"When we started the Z by HP partnership, I thought it would complement our current process. Now it is critical to what we do. It helps us attract quality, diversified talent that had multiple offers from championship-winning teams. But they came to the Cincinnati Reds because of the benefits we offer supported by Z by HP. The HP partnership is making our department one of the most flexible, effective and efficient baseball data analytics teams"

NICK WAN

Director of Baseball Analytics, Cincinnati Reds



From impossible to possible

Wan continues, “Without Z by HP, performing complex performance analysis was impossible, so we managed with minimal information. But now, we can complete all the analysis we need a month in advance. That means we make far more informed and better decisions. And this is just one example, because Z by HP is delivering this level of analytical capabilities across the board at the Cincinnati Reds.”

Once data analysis focused primarily on the MLB team, but in part through Z by HP’s increased computational power, all levels of the club now benefit from the data science skills of Wan and his team. This also enables interns to start working part-time while finishing courses at college. Combined, these benefits are improving the team’s ability to spot and develop talent earlier than ever before.

Of the Z by HP technology, Wan shares, “I enjoy using Z by HP and I think it is unique. There is not a data science-specific brand in the market with greater processing power and greater hardware specifications that addresses the things we do day-to-day.”

The funding that HP provides enables the Cincinnati Reds to enhance the intern experience significantly. It has increased their salaries, housing options, and allows Wan to send interns to a variety of external conferences and scouting trips that they otherwise could not attend. The funding also allows the team to broaden its intern search and recruitment efforts and reach candidates that they couldn’t identify and reach before, further improving equity.

CUSTOMER AT A GLANCE

APPLICATION

High-performance data science to analyze match performance

HARDWARE

Z by HP Desktop
Z by HP ZBooks
Z by HP Data Science Stack Manager

SERVICES

HP internship sponsorship

Z by HP critical to what we do

Wan says, "When we started the Z by HP partnership, I thought it would complement our current process. Now it is critical to what we do. It helps us attract quality, diversified talent that had multiple offers from championship-winning teams. But they came to the Cincinnati Reds because of the benefits we offer supported by Z by HP. The HP partnership is making our department one of the most nimble, effective and efficient baseball data analytics teams."

The focus for the Cincinnati Reds is to develop a championship-caliber baseball team that consistently develops impact-level talent. Wan concludes, "Z by HP has made us better able to support and provide better, faster and reliable analytical information to the club. And maybe we can find a key bit of data to help a player throw faster or hit the ball harder that contributes to the Cincinnati Reds' long-term success and delivers better on-field performance."

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NICK WAN

Director of Baseball Analytics, Cincinnati Reds

IT MATTERS

Performs data analytics on 50TB of data daily

Enables dedicated, high-performance data processing, home and away

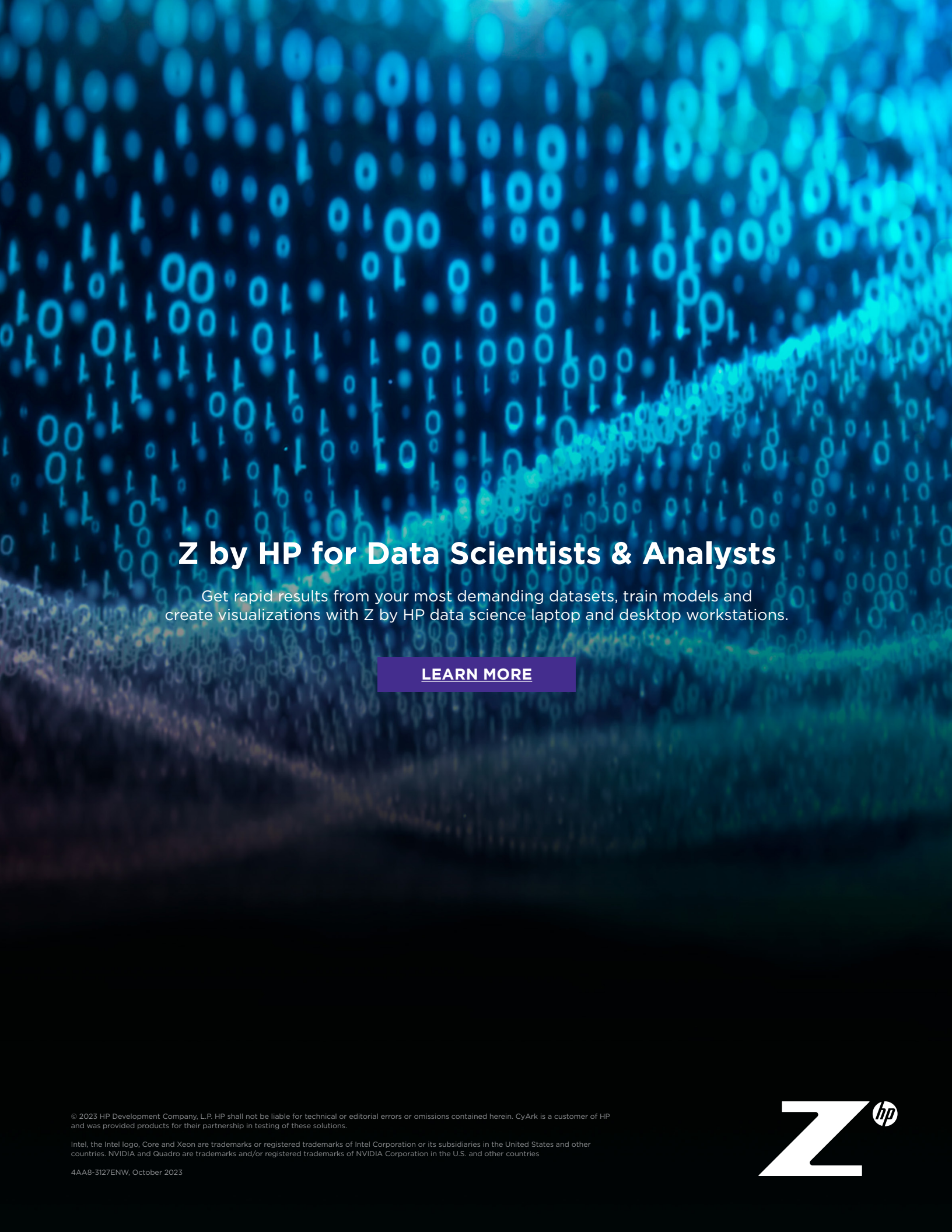
Performs complex data analysis that was impossible in the past

BUSINESS MATTERS

Helps rebuild the Cincinnati Reds' on-field performance and success

Fosters diversity and grows new management talent

Delivers competitive advantage to attract high-quality, diverse staff



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