How Companies are Dealing with the Talent Shortage in Data Science

By **Shelby Hiter**   January 29, 2022

Specialized fields like data science have been hit especially hard with recruitment and retention challenges amid the shortage of talent in the tech industry.

Tech leaders say companies need to reconsider how they source and retain data science talent.

Read on to learn how different companies are combating the data science talent shortage through improved hiring practices, increased retention focus, and a heavier emphasis on efficient tools and teams:

Key Strategies For Maximizing Your Data Science Talent Pool

1. Upskill existing employees

2. Give data teams better tools, processes, and support

3. Offer networking and education for new data scientists and partner with schools

4. Provide transparent career road maps

5. Develop and project a recognizable brand voice

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1. Upskill Existing Employees

When a company is struggling to find new talent for their data science teams, it's often worth the time and resources to look internally first.

Current employees are likely to already have some of the skill sets that the company needs, and they already know how the business works. Many companies are upskilling these employees who want to learn and find a new role within the company or expand their data science responsibilities.

Waleed Kadous, head of engineering at Anyscale, an artificial intelligence (AI) application scaling and development company, believes that employees with the right baseline skills can be trained as data scientists, particularly for more straightforward data science tasks.

"It depends on the complexity of the tasks being undertaken, but in some cases, internal training of candidates who have a CS or statistics background is working well," Kadous said. "This doesn't work well for highly complex data science problems, but we are still at a stage of having low-hanging fruit in many areas.

"This often works well with the central bureau model of data science teams, where data scientists embed within a team to complete a project and then move on. ... The central bureau incubates pockets of data science talent through the company."

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2. Give Data Teams Better Tools, Processes, And Support

In many cases, data science teams already have all of the staffing they need, but inefficient processes and support hold them back from meaningful projects and progress.

Marshall Choy, SVP of product at SambaNova Systems, an AI innovation and dataflow-as-a-service company, believes many tasks that are handled by internal data scientists can be better administered by third-party strategic vendors and their specialized platforms.

"Some companies are taking a very different approach to the talent shortage issue," Choy said. "These organizations are not acquiring more talent and instead are making strategic investments into technology adoption to achieve their goals.

"By shifting from a DIY approach with AI adoption to working with strategic vendors that provide higher-level solutions, these companies are both reducing cost and augmenting their data science talent.

"As an example, SambaNova Systems' dataflow-as-a-service eliminates the need for large data science teams, as the solution is delivered to companies as a subscription service that includes the expertise required to deploy and maintain it."

Dan DeMers, CEO and co-founder of Cinchy, a dataware company, also believes that third-party solutions can solve data science team pain points and reduce the need for additional staff. Great tools also have the potential to draw in talent who want access to these types of resources.

"There's no single path to stronger recruitment, but technology advances that are both creative and consequential always draw the greatest talent," DeMers said. "With data in particular, there are areas in need of major improvement, and this is where the best minds can be applied.

"Data is seen as inextricably intertwined with the applications used to generate, collate, and analyze it, and along the way, some of those functions have become commoditized. That's partly why data science has gone from being the discipline du jour to a routine task.

"Dataware helps move that talent set forward: it's a successor to hardware and software, and arguably the first true advance for data integration in perhaps decades. It gives skilled and aspiring developers more streamlined access to digital resources and makes it easier to create digital solutions. And it helps enhance the data scientist's role by eliminating the need to constantly integrate data with every new app and by removing data copies from operating practices."

Kon Leong, CEO at ZL Technologies, an enterprise unstructured data management platform, thinks that one of the biggest inefficiencies on data science teams today is asking specialized data scientists to focus on menial tasks like data cleaning.

"While a truly skilled data scientist possesses a combination of advanced technical skills and intuitiveness, the reality today is that 80% of a data scientist's time is spent cleaning data," Leong said.

"In many ways, the data cleanup and management challenge has eclipsed the analysis portion. This creates a mismatch where many professionals end up using their skills on tedious work that they're overqualified for, even while there is still a shortage of top talent for the most difficult and pressing business problems.

"Some companies have conceived creative ways to tackle data cleanup, such as through cutting-edge data management and analytics technologies that enable non-technical business stakeholders to leverage insights. This frees up a company's data scientists to focus on the toughest challenges, which only they are trained to do. The result is a better use of existing resources."

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3. Offer Networking And Education For New Data Scientists And Partner With Schools

New data scientists are graduating from degree and certification programs at a fast pace, but companies aren't fully taking advantage of this growing talent pool.

These newer data professionals are hungry to showcase their learned skills, but they also want opportunities to keep learning, try hands-on tasks, and build their network for professional growth.

Sean O'Brien, senior VP of education at SAS, a top analytics and data management company, thinks it's important for retention for companies to offer curated networking opportunities, where new data scientists can build their network and peer community within an organization.

"Without as much face time, new and early career employees have lost many of the networking and relationship-building opportunities that previously created awareness of hidden talent," O'Brien said.

"Long-serving team members already have established relationships and knowledge of the work processes. New employees lack this accumulated workplace social capital and report high dissatisfaction with remote work.

"Companies can set themselves apart by creating opportunities for new employees to generate connections, such as meetings with key executives, leading small projects, and peer-to-peer communities."

O'Brien also emphasized the importance of having a strong university recruiting and education strategy, so companies can engage data science talent as early as possible.

"Creating an attractive workplace for analytics talent isn't enough, however," O'Brien said. "Companies need to go to the source for talent by working directly with local universities.

"Many SAS customers partner with local college analytics and data science programs to provide data, guest speakers, and other resources, and establish internship and mentor programs that lead directly to employment.

"By providing real-world data for capstone and other student projects, graduates emerge with experience and familiarity with a company's data and business challenges. SAS has partnerships with more than 400 universities to help connect our customers with new talent."

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4. Provide Transparent Career Road Maps

Data science professionals at all levels want transparency, not only on salary and work expectations but also on what career growth and paths forward could look like for them.

Jessica Reeves, SVP of operations at Anaconda, an open-source data science platform, explained the importance of being transparent with job candidates and current employees across salary, communication, and career growth opportunities.

"Transparency is a critical characteristic that allows Anaconda to attract and retain the best talent," Reeves said.

"This is seen through salary transparency for each employee with benchmarks in the industry for your title, where you live, and how your salary stacks comparative to other jobs with the same title. We also encourage transparency by having an open-door policy, senior leadership office hours, and anonymous monthly Ask Me Anything sessions with senior leadership.

"Prioritizing career growth also helps attract top talent. Now more than ever, employees want a position where they can have opportunities to get to the next level and know what that path is. Being a company that makes its potential trajectory clear from the start allows us to draw in the best data practitioners worldwide.

"To showcase their growth potential at Anaconda, we have clear career mapping tracks for individual contributors and managers, allowing each person to see the steps necessary to reach their goal."

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5. Develop And Project A Recognizable Brand Voice

Developing and projecting a recognizable brand voice is one of the most effective indirect recruiting tactics in data science.

If a job seeker has heard good things about your company or considers you a top expert in data science, they are more likely to find and apply for your open positions.

Kadous at Anyscale advocates that companies support their employees who want to discuss or share their most interesting work: It gives existing employees a sense of pride and ownership, and it gives potential employees a chance to more clearly see the type of work that your company does.

"One thing that is becoming increasingly important is supporting data scientists in sharing their work through blog posts and conferences," Kadous said. "Uber's blog is a great example of that.
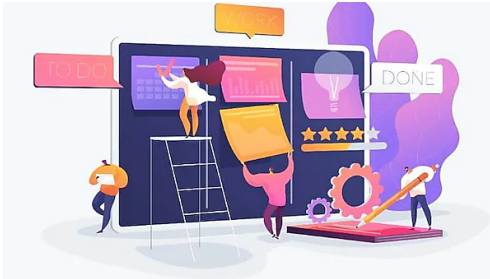
"It's a bit tricky because sometimes data science is the secret sauce, but it's also important as a recruiting tool: It demonstrates the cool work being done in a particular place.

Reeves at Anaconda also encourages her teams to find different forums and mediums to give their brand more visibility.

"Our Anaconda engineering team is very active in community forums and events," Reeves said. "We strive to ingrain ourselves into the extensive data and engineering community by engaging on Twitter, having guest appearances on webinars and podcasts, or authoring blog posts on data science and open-source topics."

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