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HOW TO FORM A CLOSE-KNIT DATA SCIENCE TEAM IN WEEKS

DAVID KUNTZ · JULY 16, 2020

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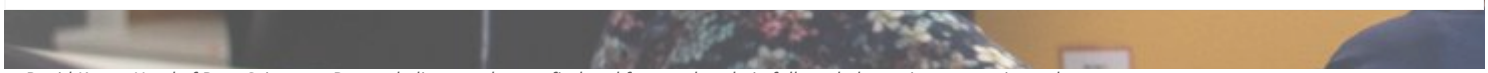

David Kuntz, Head of Data Science at Degreed, discusses how to find and form a close-knit, full-stack data science team in weeks.

We've all heard about data science unicorns – people with an almost mythical set of skills that can bring real clout and power into your organisation. But searching for your unicorn can be a misguided mission. Instead of hiring just one unicorn, who are hard-to-find and often out of budget, look at creating a full-stack team and uniting their differing skills and experiences towards a common goal.

At a key time in Degreed's product journey, we had a critical need to build-out our data science capabilities to accelerate its product roadmap. So we took this approach, searching for 'full-stack' data scientists who were diverse, collaborative and talented. Then we united them as a close-knit team under significant pressure and company-wide scrutiny. Simultaneously, the Coronavirus pandemic began to spread. As our data science team began their life at Degreed, so too did the global shutdown.

Looking back at this time, there are lessons learned for all leaders looking to build a data science team quickly. In recruiting, uniting, and motivating them – even when spread across different geographies and time-zones.

THE NEED FOR DATA SCIENTISTS

We were fortunate in that there was a clear business case to invest in a "full-stack" data science team. There was senior buy-in from the start, which is critically important.

What's a full-stack data science team, you ask?

We were looking for people who were not just strong data scientists, not just experienced ML (machine learning) engineers, but also talented software engineers – people who had strong coding and product development skills. And not just that, but people with strong critical reasoning and critical thinking skills.

Why?

The team's main focus is to build production-grade ML-driven services to create new capabilities and features in the Degreed product, initially for the (currently in-beta) Career Mobility product that helps to link skills and learning to work opportunities.

When building a team from the ground up there is a temptation to focus on hiring a collection of very experienced people, especially when the team has a lot to do, and needs to move quickly. But this can be a mistake. Diversity in the team, along many dimensions, allows each person to contribute from the start.

The benefits of a diverse team are well-known. Diversity leads to greater innovation. Culturally diverse teams, for example, are more likely to develop innovative new products compared to homogeneous ones.

Rita Sallam, research vice president at Gartner, explains that,

"...Among analytic and business intelligence (BI) leaders indicates a positive relationship between the diversity of teams and business benefits."

She goes on to explain that data leaders must consider both the 'seen' diversity criteria (gender, ethnicity and so forth) as well as 'unseen' factors like the diversity of thought, knowledge, experience, cognitive styles and perspectives.

It is especially important when building this kind of team to blend areas of expertise and experience so that each person on the team has something to teach the others, and something they can learn from others. This provides balance and trust across the team and helps create a learning culture, which is especially important when developing groundbreaking new capabilities.

GOING DEEP INTO (AND THEN BEYOND) THE CV

What does it take, then, to find people with different skill sets, experiences, strengths and personalities?

To build a varied team that would be better at problem-solving, coming at an issue from different angles, where there are fewer blind spots, they can learn from one another, and their skills complement each other?

Doing this today requires really reading CVs in detail. It might seem old-fashioned, but each CV tells a story that mere keyword filtering cannot yet capture, nor yet most of the AI (artificial intelligence) applications in this area.

Once a shortlist of CVs has been identified, you need to move beyond it to other indicators of skills, capabilities, communication, and critical thinking. Looking at a candidate's blogs, GitHub, and/or Kaggle, for example, can really help round out the picture, and help identify who's worth speaking to in person.

Again, while many organizations are trying to speed up recruitment by searching for keywords in CVs, this misses the wider context of a candidate and potentially eliminates really good candidates merely because they didn't happen to have the right keyword listed.

ALIGNING BUSINESS NEEDS WITH SKILLS AND EXPERIENCE

To build a quality data team rapidly, you need to assess their experiences and how these align with your needs. Consider what skills they have that are related to others, that can be built upon and soft skills like empathy and collaboration that will help your team function. You should also consider their career potential – what each data scientist can achieve for you five to ten years from now.

This led to a data science team with strengths in machine learning engineering, data engineering, data analysis, software engineering, and in seeing and telling the deeper stories behind the data. It enabled us to have a real-time modelling and continuous-deployment infrastructure working in parallel and develop the first iteration of our new capabilities in just a few months (from March to May 2020).

COMPETING FOR TALENT

Companies like ours (and most companies, frankly) cannot compete on compensation with the big tech companies like Google, Facebook, Netflix, et al. Data scientists in high-demand areas like California, New York, and Washington were simply out-of-budget. So, we spent our time looking at smaller markets where there are concentrations of interesting and exciting things happening. Markets like France and the UK, where government investment in data science is driving growth and innovation.

Being a remote-first company makes Degreed a more competitive employer. People can choose to work from anywhere and we could search globally for suitable candidates. This set-up also enabled a certain resilience when the coronavirus shutdown occurred. Our team was already operating remotely, operating from home, and we had all the tools in place to support productive remote work, like an up-to-date Confluence repository for documentation, Slack for communication, Github for code, and so on.

REMOTE-FIRST COMMUNICATION

To aid communication and cohesiveness, we hold daily stand-ups via video call to check-in with each other and 'see' our colleagues every day. As a team, even though we live in different cities and countries, we try to be visually together as much as possible and our video calls also give a chance to socialise. The current team spans nine time zones, but with some flexibility and empathy, we were able to find a time that worked well enough for everyone.

FUTURE PLANS

While the first version of infrastructure has launched, the team has plenty of exciting work in front of it, such as internationalizing the 'language' of skills and understanding how different skills connect to each other. Longer-term, the team will be leveraging this deep insight into skills to enable not just upskilling for Degreed users, but also mobility based on those skills, by helping employers connect the right people to the right work opportunities.

There's also the emerging impact of the pandemic to consider. The demand for upskilling and workforce agility is growing post-COVID – one in seven Degreed users activated their profiles during the global shutdown. The data science team is responding to this growth, building-out further functionality and exploring new capabilities for Degreed learning and career mobility products.

BUILD STRONG FOUNDATIONS

The main takeaway from this is that your team's foundations are key. By investing early-on in the diversity of your team, clearly aligning their skills and experience with your goals, and ensuring they can learn from and teach each other as they grow, your team will be well set-up for whatever may come their way.

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David Kuntz is a global leader in the field of AI-driven adaptive learning and personalised education. As Head of Data Science at Degreed, David is leading the development of Degreed's next-generation inference engine, enabling personalised skill-development recommendations, targeted skill-role-opportunity matching, and related capabilities. Prior to joining Degreed, David was Principal Advisor to the CEO at ACT, creating and leading the strategy and direction for ACT's adaptive learning initiatives.

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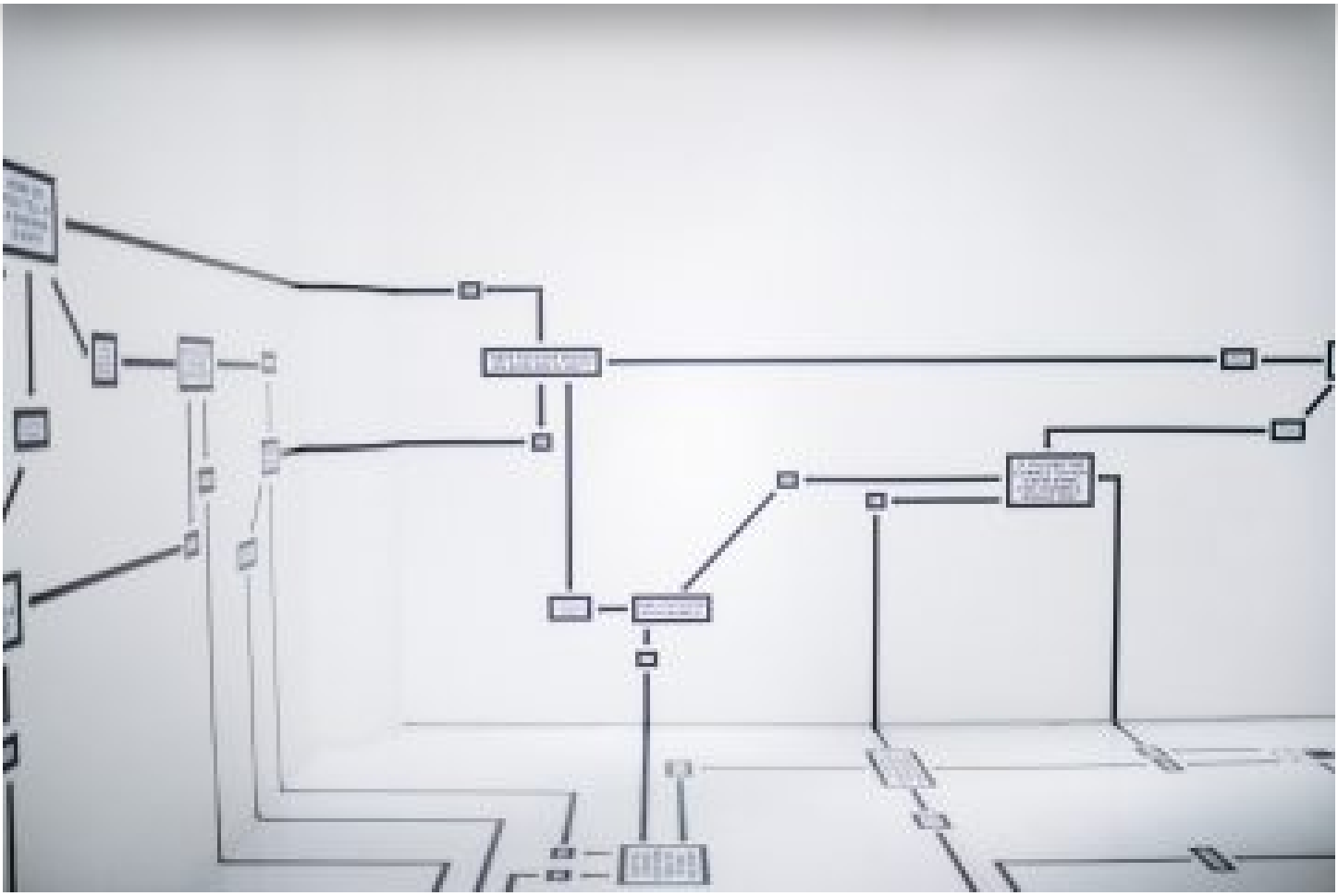

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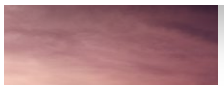

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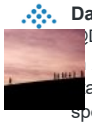

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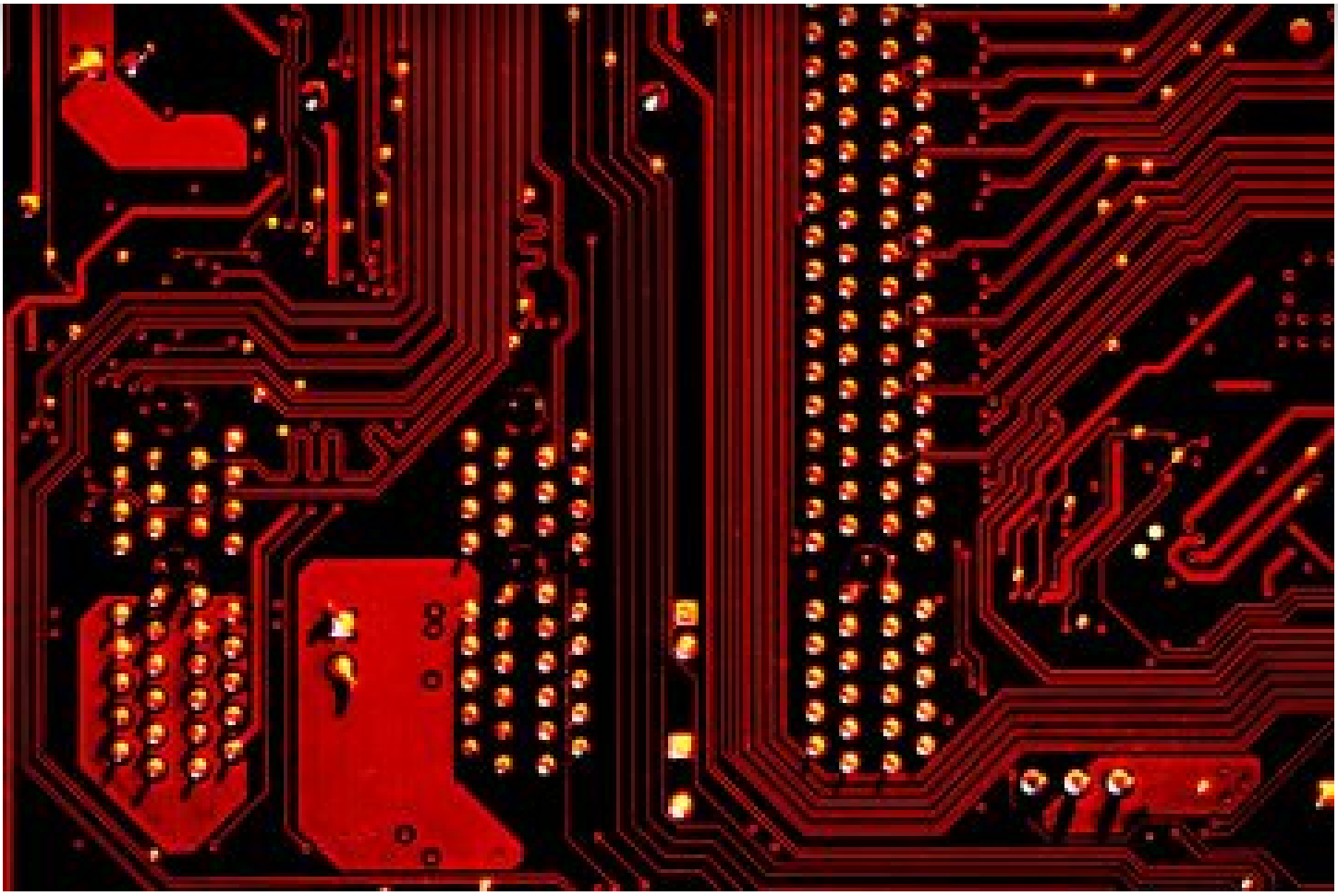

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