



GRENKE
FAST // FORWARD // FINANCE

THERE IS NO TALENT SHORTAGE

IN DATA & ANALYTICS!

DataGrillen 2024 – Thomas Kronawitter

ABOUT ME



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AGENDA

- 01 // The Impact of talent shortage
- 02 // How are we recruiting?
- 03 // What can we change?
- 04 // Impact of tools and HR
- 05 // How to retain talent?
- 06 // Considerations for a diverse workplace

01 //

THE IMPACT OF TALENT SHORTAGE





BIGGEST BARRIER FOR EMERGING TECHNOLOGIES

“

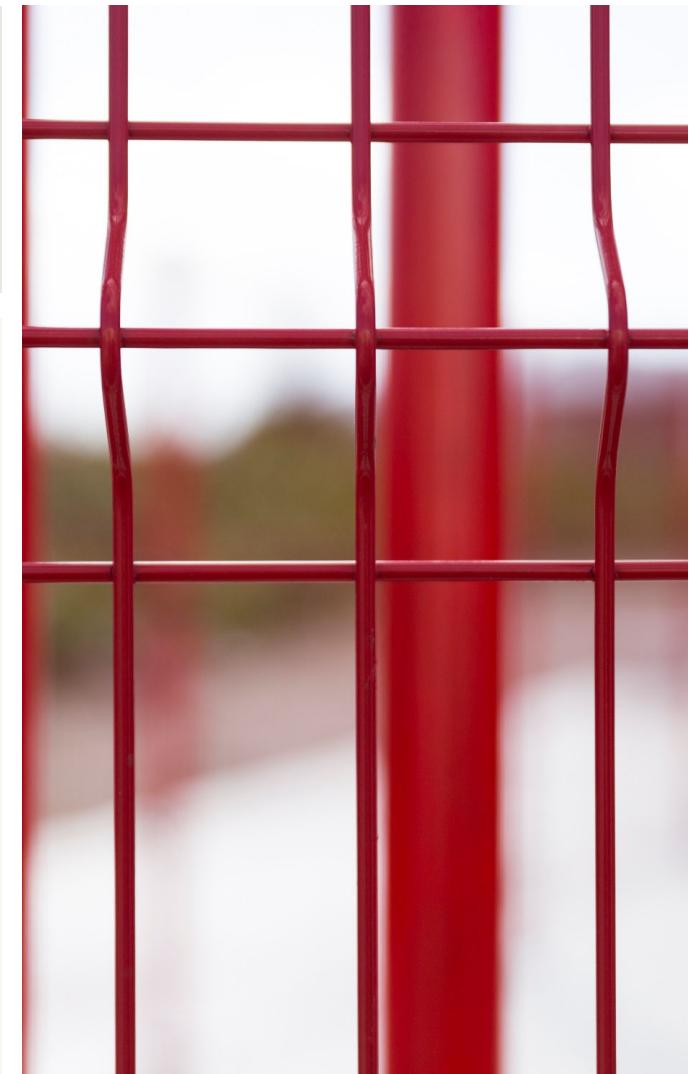
IT executives see the talent shortage as the most significant adoption barrier to 64% of emerging technologies, compared with just 4% in 2020 [...]



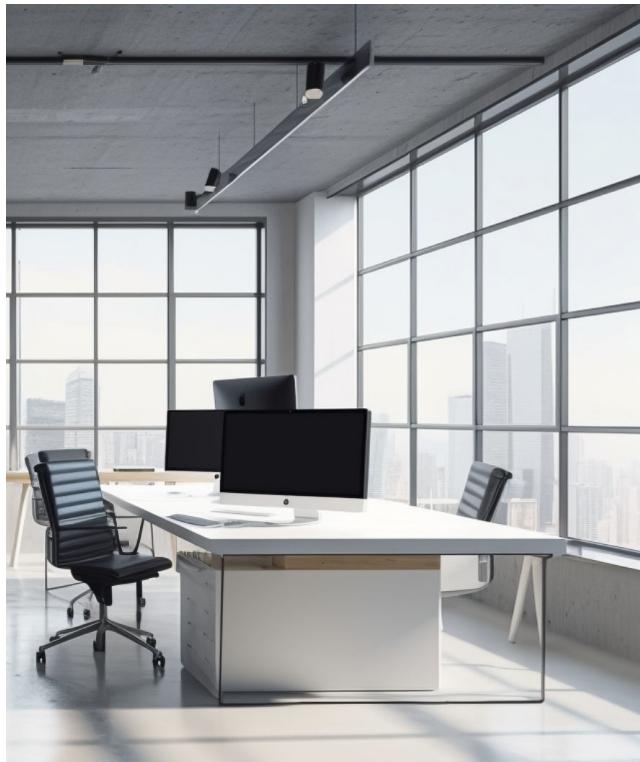
LEADING FACTOR INHIBITING TECH ADOPTION

“

Talent availability is cited as a leading factor inhibiting adoption among all six technology domains included in the survey – compute infrastructure and platform services, network, security, digital workplace, IT automation and storage and database.



TALENT SHORTAGE IN THE U.S.



”

In the U.S., for example, there's a record-breaking 10 million advertised jobs.

In 2017, there were less than 50,000 Computer Science graduates and over 500,000 open positions.

TALENT SHORTAGE IN BRAZIL



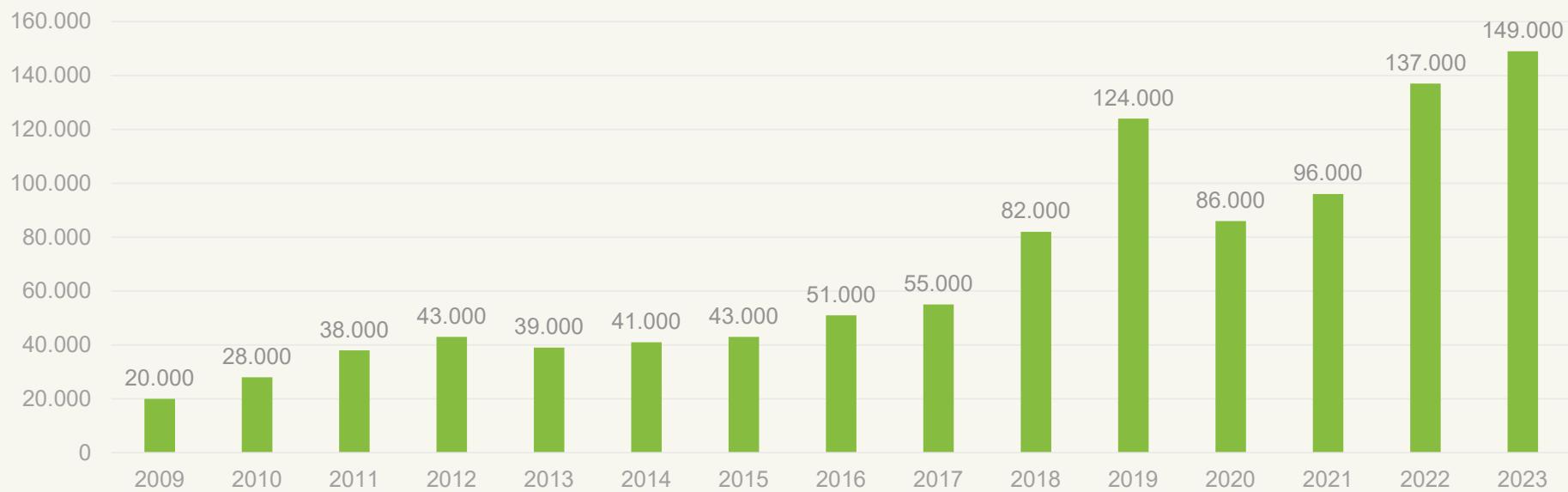
“

Brazil had over 400,000 IT jobs unfilled in 2022.

[...] that the shortage could have cost the industry US\$32 billion in lost revenue between 2010 and 2020.

RECORD BRAKING IT TALENT SHORTAGE IN GERMANY

Vacant Jobs in IT



Source: https://www.bitkom.org/Presse/Presseinformation/Rekord-Fachkraeftemangel-Deutschland-IT-Jobs-unbesetzt#_

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TOP FACTS ON TALENT SHORTAGE

> 700,000
unfilled IT jobs in
the U.S.

75%
of companies globally
reported talent shortage



\$8.5 trillion
unrealized annual revenues in 2030



Nearly all
companies
classify skill
gap as a
priority

WHAT SKILLS ARE YOU LOOKING FOR IN A NEW EMPLOYEE / COLLEAGUE?



bit.ly/talent8kb

Artificial Intelligence (AI)
Cloud Computing
Database Administration
Machine Learning
Big Data
Data Science

02 //

HOW ARE WE RECRUITING?





HOW MOST ORGANIZATIONS RECRUIT

Job Description

Looking for qualified people who can develop scalable solutions to complex real-world problems using Machine Learning, Big Data and Statistics

Experience

3+ years of experience working with big data algorithms and models

3+ years of hands-on experience in using machine learning

Education

Bachelor's Degree or higher in Statistics, Applied Mathematics, Computer Science, Information Systems or equivalent

Skill

- | | | | | |
|----------|--------------------|-------------|---------|-----------|
| - Python | - Machine Learning | - Analytics | - Spark | - PyTorch |
| - SQL | - R | - Hadoop | - AWS | - PySpark |

HOW MOST ORGANIZATIONS RECRUIT



Overly ambitious job descriptions with no real content



Requiring many years of experience



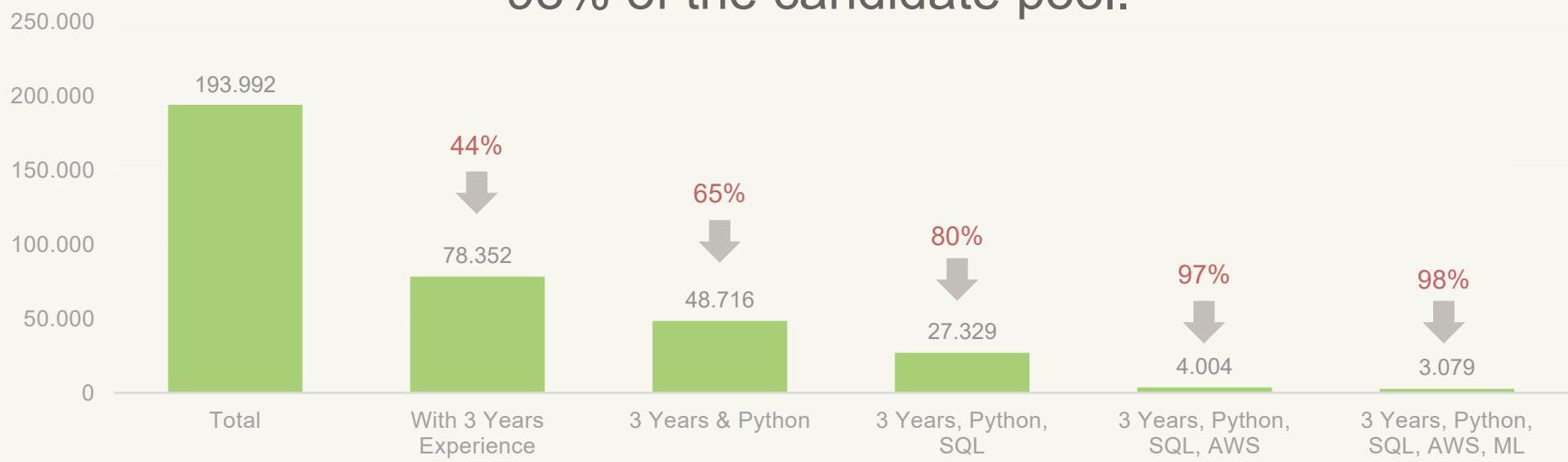
Background in IT / Mathematics



Long and extensive lists of required skills

BUT WE DO NOT REQUIRE THAT MUCH?!

Just 4 technical requirements and 3 years of experience eliminate 98% of the candidate pool.



REAL-LIFE JOB POSTING – PAGE 1

Expectations and work experience

- University degree in information technology, computer science or related discipline.
- Extensive experiences as Full Stack Developer and in web design with **Javascript**, **Typescript**, **React JS**, **Node JS**, and other web programming languages/frameworks.

REAL-LIFE JOB POSTING – PAGE 2

- Extensive data science knowledge like Python, **Tensorflow**, Keras, **Pytorch** etc. and flexibility to adapt to new languages.
- Extensive experiences in databases like e.g. MySQL, PostgreSQL etc. and DevOps and server management skills including performance and Log visualization tools (Grafana, Prometheus).

REAL-LIFE JOB POSTING – PAGE 3

- Expertise in Continuous Integration and Deployment, Cloud (AWS, MS Azure) and local deployment would be advantageous.
- Project management and agile development skills (e.g. JIRA, Confluence etc.) would be a plus.



REAL-LIFE JOB POSTING – PLEASE STOP!

- Experiences in the automotive and battery development would be advantageous.

Note: Please apply exclusively online via our career portal. Applications via other channels (esp. e-mail) cannot be considered.

REAL-LIFE JOB POSTING – SUMMARY

Are we still
looking for
people who
really exist?



- 1 Skills and experiences require a whole team
- 2 Extensive range of skills from different career paths
- 3 Specific job sector and subsector are very selective
- 4 Misspelled technologies deter experts



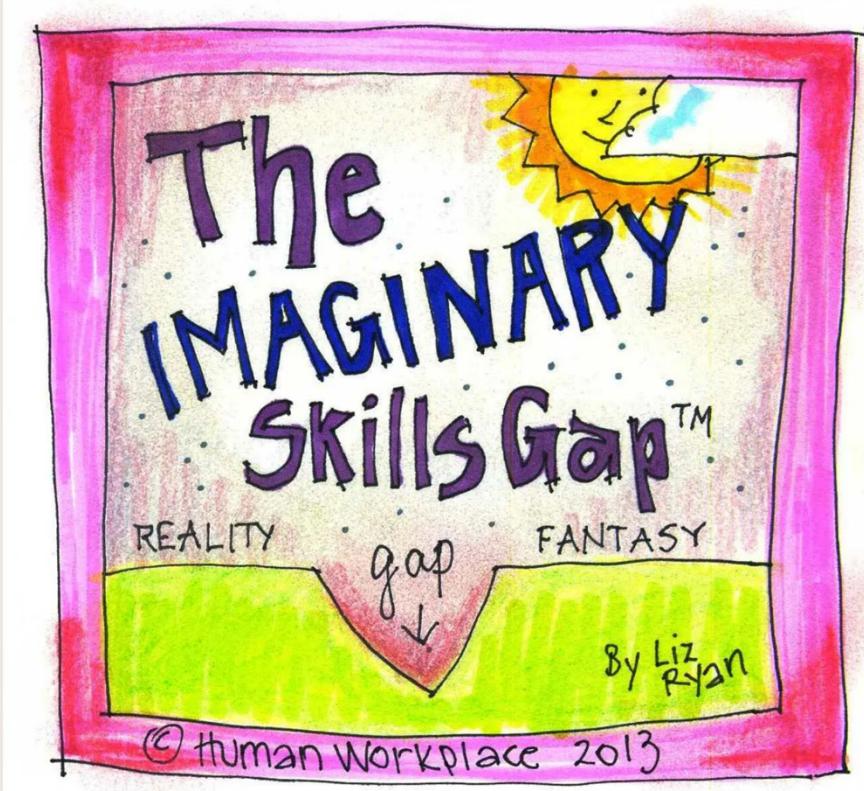
LIZ RYAN

// Former Fortune 500 HR Senior VP

// CEO / Founder, Human Workplace

// Author: Red-Blooded HR

// World's most widely-read workplace
advisor



Real people come with skills that can be acquired over a normal life span.

RECRUITING CRISIS



Unrealistic skills expectations



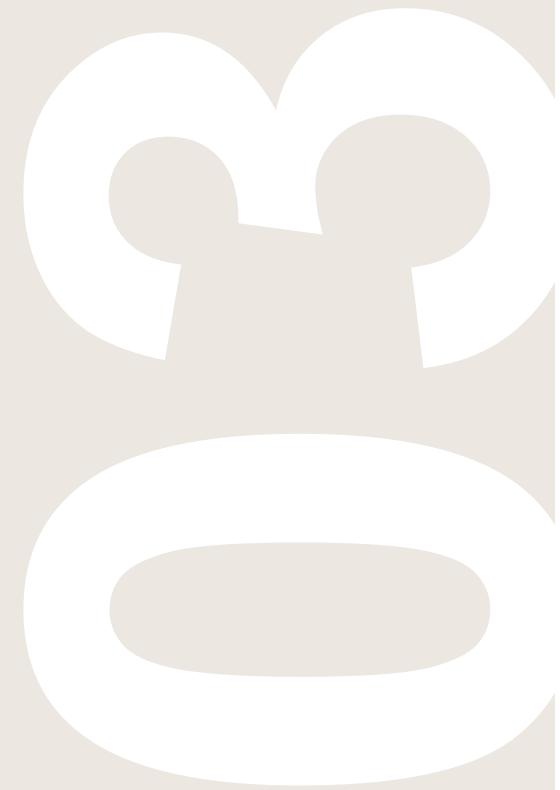
No description of team, actual work or workplace



Looking for unicorn robots - not for human beings

03 //

WHAT CAN WE CHANGE?





IMAGINE THAT YOU COULD ONLY
HAVE CANDIDATES WITH ONE
SINGLE TRAIT / SKILL.

Curiosity







ANY TALENT SHORTAGE CAN LAST ONLY 3 YEARS.

(Michael Beschkitt, Chief Product Owner, GRENKE digital GmbH)

WE ARE FREE TO TRAIN AND DEVELOP TALENT



Education

- // Apprenticeship training
- // Internships
- // Integrated degree programs
- // Identify active roles in the education system



On-the-job training

- // Internal training courses
- // External training courses
- // Lunch and Learns
- // Self learning platforms
- // Conferences and events

WE ARE FREE TO TRAIN AND DEVELOP TALENT



Work & Events

- // Pair Programming
- // Buddy system
- // Lab Days
- // Hackathons



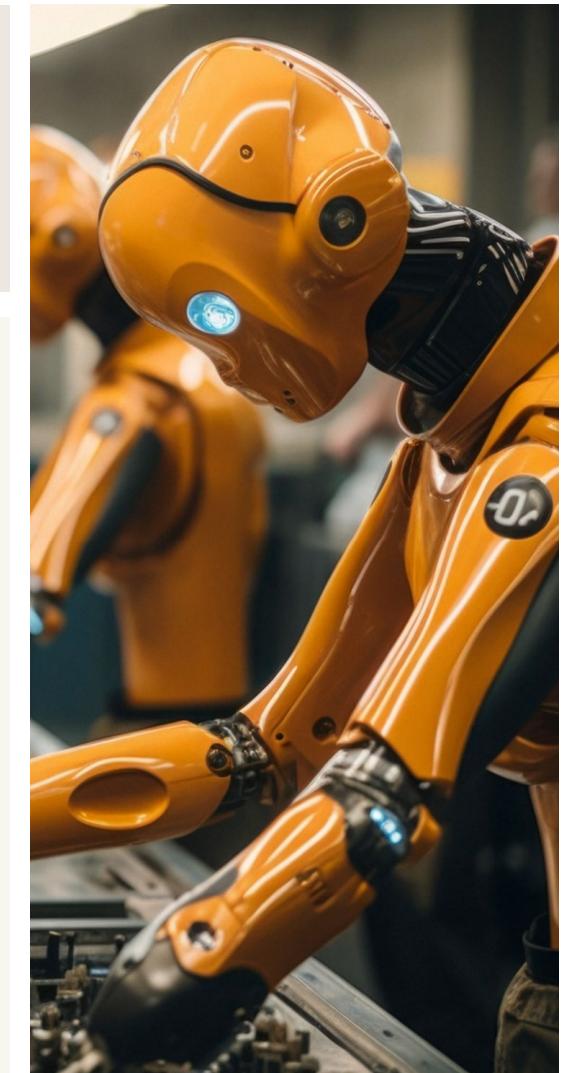
Slack Time

- // 20% of the work should go to learning, exploring, improving and automation



TRADITIONAL REQUIRED SKILLS LISTING

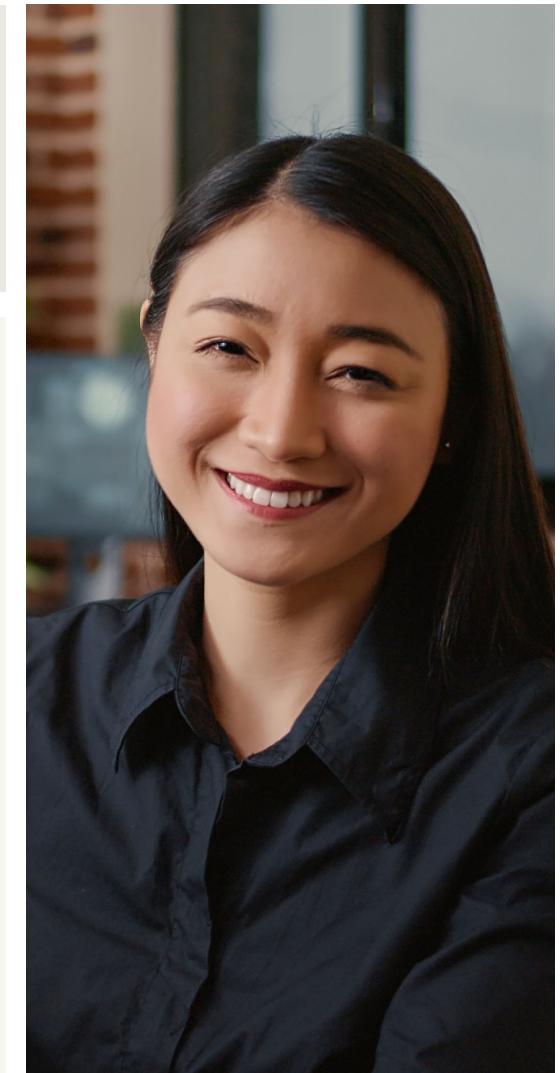
- // Python / R / C# / TensorFlow
- // PostgreSQL / SQL Server / Hadoop
- // Tableau / PowerBI / SSRS
- // PySpark / Databricks / SSIS
- // Automotive, Banking, Medical, ..., Sector
- // Background in IT, Mathematics or Physics
- // Certifications
- // ...



NEW & HUMAN-CENTRIC REQUIRED SKILLS LISTING

// Curious about new technologies, processes and approaches

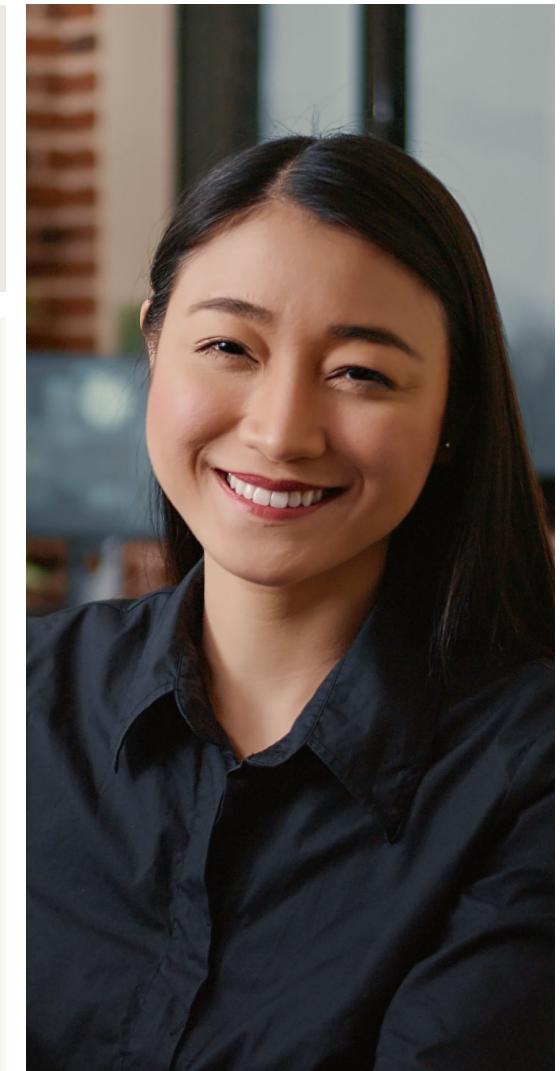
// Passionate about learning, (self-)improving, finding ways to optimize processes, workflows and business insights



NEW & HUMAN-CENTRIC REQUIRED SKILLS LISTING

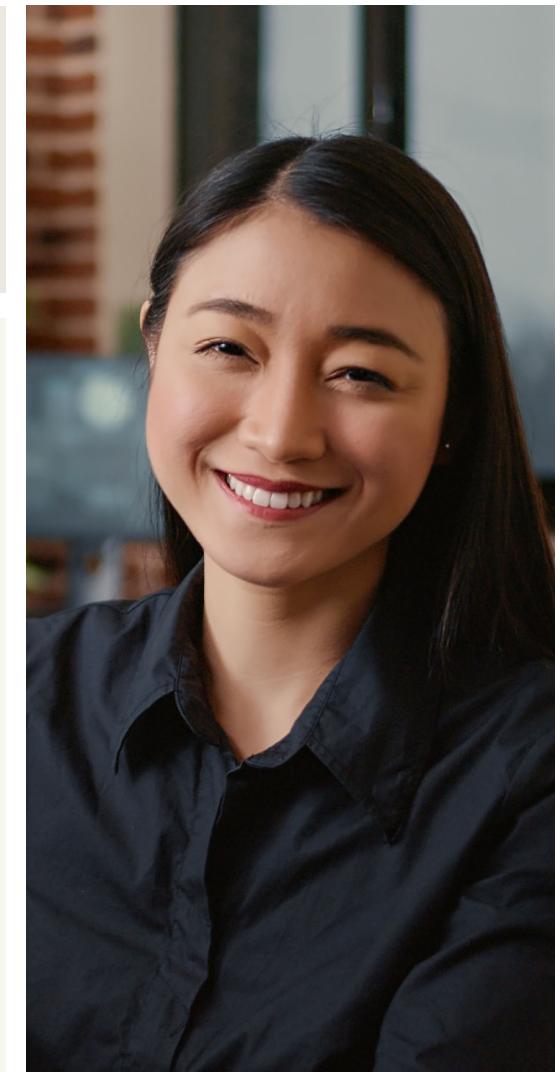
// Enthusiasm to work and to communicate with stakeholders from IT and business departments

// Reliability, persistence and patience doing all of this above



A REALLY SHORT LIST OF DESIRED SKILLS

- // Python / PySpark
- // SQL
- // Git
- // ...



START LOOKING FOR REAL PEOPLE



Prioritize learning and passion over skills



Rethink the definition of “qualified”



Think hard about must-have skills

SEEK FOR TEAM AND TALENT DIVERSITY

Talent Diversity

- // Age and proficiency level
- // Atypical talent
- // Neurodiversity

Team Diversity

- // Gender
- // Background
- // Origins



SEEK FOR TEAM AND TALENT DIVERSITY



Boost joint intellectual potential



Helps to keep biases and assumptions in check



Makes teams more resilient

REVISED HUMAN-CENTRIC JOB POSTING

Job Description

Join an Agile team of data scientists exploring and evolving our advanced analytics capabilities. We strive to create a solid data foundation based on structured and unstructured data. Part-time and remote work are possible.

Required Skills

Curious about new technologies, processes and approaches.

Passionate about learning, (self-)improving, finding ways to optimize processes, workflows and business insights.

Enthusiasm to work and communicate with stakeholders from IT and business departments.

Reliability, persistence and patience doing all of this above.

Desired Skills

- Python
- Apache Spark
- SQL



04 //

IMPACT OF HIRING TOOLS AND HUMAN RESOURCES

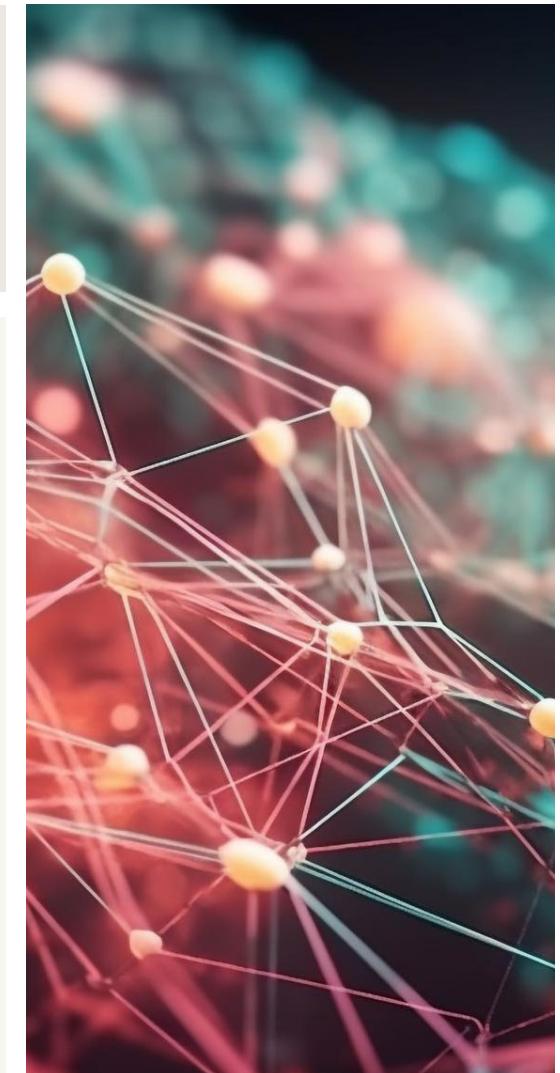


A close-up portrait of a young man with short brown hair and a light beard, smiling at the camera. He is wearing a white t-shirt and a thin chain necklace. The background is a white brick wall.

Meet Patrick

PRE-FILTERING BY RECRUITMENT PORTALS

- // They tend to eliminate candidates, often by just matching keywords from the posting
- // Misspelled technology names problematic
- // Buzz words and common “relevant” words are prioritized
- // Machine readable CV will be favored





PRE-FILTERING BY RECRUITERS AND HUMAN RESOURCES

- // Focus on skills and number of skills that can be measured
- // Emphasis on Academia and Certifications that can be compared to other candidates
- // Missing established recruitment strategy

WHAT CAN WE CHANGE?



Talk to recruiters and describe / define what kind of people you want to hire



Make sure employee referrals always get forwarded and looked at by the potential team



Find ways to tune screening processes and mechanisms







05 //

HOW TO RETAIN TALENT



WHAT ARE THE IMPORTANT FACTORS TO RETAIN TALENT?



“

Hiring and training a new employee is significantly more expensive than raising the wages of an existing employee.

[...] that's \$30,000 to \$45,000 to replace an employee making \$60,000 a year [...]

SALARY - ONLY 1/3 OF THE COMPLETE “COMPENSATION PACKAGE”



“

Compensation is still leading,
but 2/3 are other factors:

- // Job Flexibility
- // Future career opportunity & training
- // Corporate culture
- // Life- & Social-Benefits
- // Social & ecological responsibility

DIVERSITY - VERY IMPORTANT FACTOR TOO!

68% of participants consider employer diversity management important or very important.

66% consider diversity to be an important factor in employer attractiveness.



06 //

CONSIDERATIONS FOR A DIVERSE WORKPLACE





PEOPLE ARE PEOPLE



People have assumptions and biases



People have pre- and misconceptions



Communications is hard

WHAT ARE MICROAGGRESSIONS?



”

Every day, subtle put-downs directed towards **any marginalized group**, which may be verbal or nonverbal and are typically automatic.

A microaggression can be harder to identify than an overt discriminatory slur, and the person may not realize that their behavior is harmful.

WHY DOES IT MATTER TO TALK ABOUT MICROAGGRESSION

Racial micro-aggressions associated with higher levels of suicide

78%
of women face micro-aggressions at work



Microaggressions can have a profound impact on mental health, leading to feelings of frustration, anxiety and depression.



Micro-aggressions especially harmful in work settings

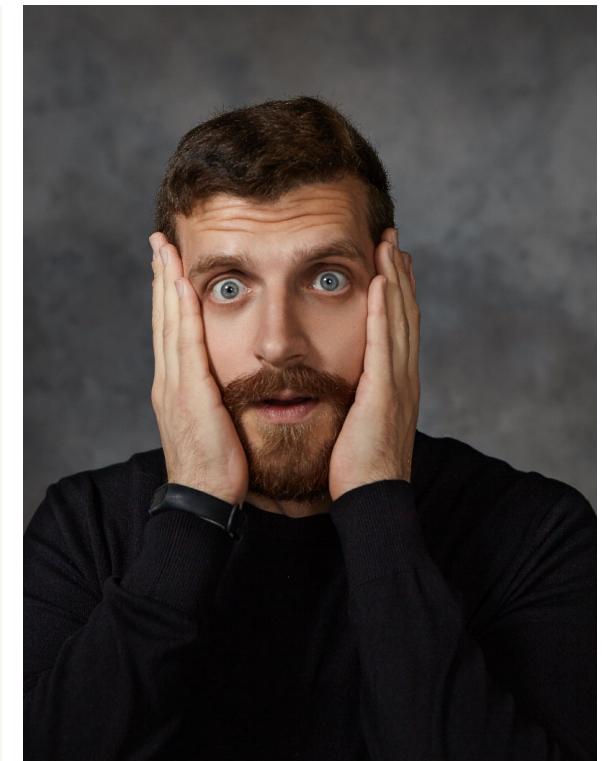
EXAMPLES OF RACIAL MICROAGGRESSIONS



Source: <https://hbr.org/2020/10/whats-wrong-with-asking-where-are-you-from> | Pictures: <https://www.buzzfeed.com/hnigatu/racial-microaggressions-you-hear-on-a-daily-basis>

MORE EXAMPLES OF HARMFUL BEHAVIOR

- // I'm not homophobic, but ...
- // [Insert any compliment], for a woman.
- // You don't look [any marginalized group].
- // Anything including the phrase “your people”
- // Having company merch in male-only sizes.



BUT THERE WAS NO HARM INTENDED!

“

- // It was just a joke.
- // I meant it as a compliment.
- // Since when did asking a innocent question become such a big deal?
- // You can't have a conversation anymore without saying something “politically incorrect.”



MICROAGGRESSIONS DO HARM

- // Trauma is cumulative
- // Microaggressions are constant and continual
- // Microaggressions symbolize past historic injustices
- // Microaggressions are constant reminders that a person is perceived an abnormality





What can we do?



EXAMINE YOUR OWN BIASES

“

Everyone has biases.
But when you do the work to actively **identify** and **challenge** these **biases**, you're less likely to let them slip into your words and behaviors.

Rethink your own privilege.



CONSIDER YOUR WORDS CAREFULLY

“

It never hurts to take an extra second or two to **think before commenting** on or questioning some aspect of another person's **identity**.

Could your comment offend them?
Will it further the relationship / the conversation?



TAKE TIME TO LEARN ABOUT OTHERS

“

Spending time with people of different cultures, religions, and life experiences is a key step in **opening up your worldview**.

To cultivate greater **empathy**, challenge yourself to listen more than you speak.

THANK YOU FOR YOUR ATTENTION!



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