



Tracking the Evolution of Work

Ben Zweig
October 2024



Jobs are bundles of activities



Bristol Myers Squibb

6 yrs 2 mos

- **Vice President, Workforce Experience & Strategies**

Full-time

Mar 2022 - Jan 2023 · 11 mos

Princeton, New Jersey, United States

Enhanced enterprise capabilities for engagement, employee experience, culture, team effectiveness, and performance management.

- Collaborated with HRLT members to create an HR strategy aligned with enterprise goals.
- Orchestrated programs to enhance leadership capabilities for onboarding new employees, business knowledge, hybrid work, decision making, and career and performance development.
- Crafted a bespoke quarterly program to engage top senior leaders in strategic problem-solving focused on shortening drug development by 50% and expanding the brand portfolio by 2x.
- Collaborated with business leaders, IT, and facilities to develop and implement a global hybrid work policy, measurement, and leadership guidelines to drive 2x more office collaboration.
- Delivered engagement and culture plans improving results by 5-10% at targeted locations.
- Designed and implemented a new digital onboarding experience for the global workforce, resulting in 20% improvement in the onboarding experience.

● **Building a Performance Management Framework**

Dental Hygienist

42 North Dental  | 368 West Broadway, South Boston, MA 02127

From \$50 an hour

[Apply now](#)



Responsibilities:

- Comprehensive documentation and continuous communication/collaboration with the doctor(s).
- Perform accurate assessments according to ADA and AAP guidelines/standards including, but not limited to: caries risk; periodontal condition; oral cancer; radiographic technique and findings.
- Effectively perform appropriate preventive or therapeutic procedure as prescribed by the doctor.
- Educate patients about clinical findings, oral health/overall health, progression of disease, proper home care and recare frequencies.
- Focus on comprehensive patient care.
- Manage schedules.
- Commitment to maintaining dental hygiene licensure and knowledge through continuing education.

LLMs: Turning text into numbers



Bristol Myers Squibb

6 yrs 2 mos

Vice President, Workforce Experience & Strategies

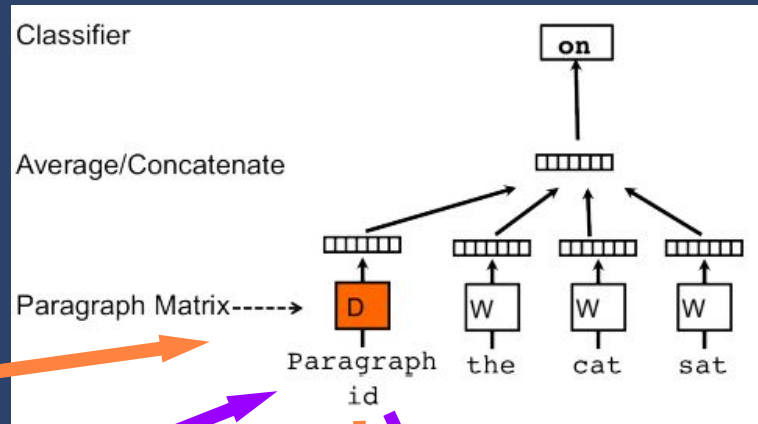
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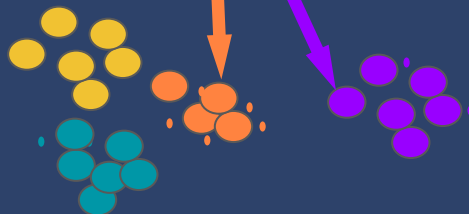
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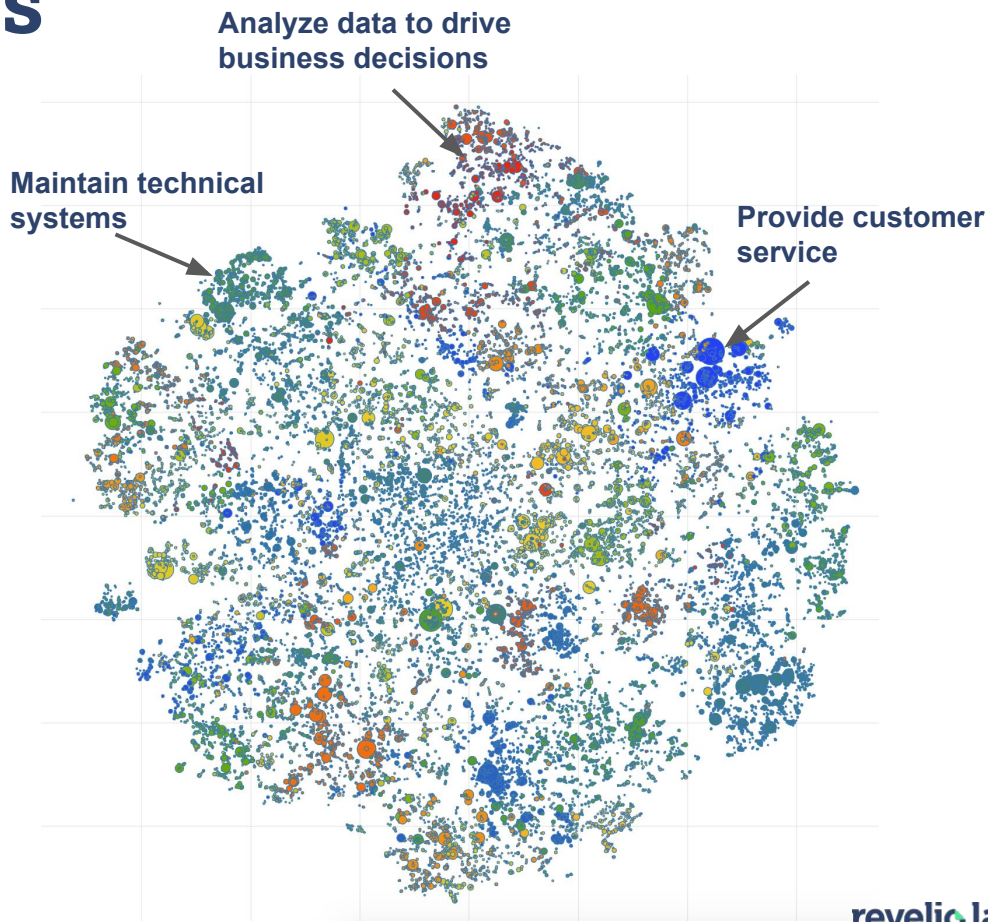


Quoc V. Le, Tomas Mikolov



Activity embeddings

- Which activities are closely related
- Clustering to build hierarchical activity structure



... into a hierarchical activity taxonomy

Business operations	Enhance client relations and business development	Enhance client relations and business growth
	Manage financial operations	Analyze financial data for compliance insights
	Manage financial transactions and reconciliation	Direct retail banking financial operations
	Manage financial reporting	Manage financial reporting and contract negotiations
	Enhance retail sales	Manage client documentation for regulatory compliance
	Develop marketing strategies for customer engagement	Optimize retail sales, merchandising, and customer service
		Enhance sales and customer relationship management
Technical development	Maintain technical systems and equipment	Provide IT support and manage technical solutions
		Maintain and troubleshoot IT systems for operational integrity
	Lead technical projects and develop engineering solutions	Lead technology solution development and integration
		Direct engineering projects and provide technical expertise
	Manage and develop software	Develop and integrate software and system solutions
Customer service	Optimize retail operations	Lead team innovation and problem-solving initiatives
	Resolve customer issues and manage vendor relations in retail	Manage retail operations and customer engagement
	Provide retail customer service	Resolve customer issues and manage vendor relations in retail
		Service customers in retail
		Provide specialized retail customer service
Safety and maintenance	Maintain and repair industrial and healthcare equipment	Conduct maintenance, safety operations on equipment
	Manage logistics and technical maintenance	Oversee medical equipment, maintain safety standards
		Provide automotive repair and maintenance services
		Execute technical and manual tasks in production settings
		Manage equipment quality and maintenance
Retail operations	Implement quality control in manufacturing processes	Control machine and safety in workplaces
	Coordinate delivery and inventory management in retail and logistics	Lead quality and process improvement in manufacturing
		Oversee retail inventory management and order processing
Data analysis	Analyze data to optimize business processes	Analyze data to inform business decisions
	Analyze compliance data and manage regulatory risks	Analyze compliance data and manage regulatory risks
Human resources	Build and develop teams in corporate environments	Analyze financial data and generate reports
	Manage financial data and generate reports	Manage employee recruitment, training, and performance
		Lead workforce development and team building initiatives
Healthcare	Manage patient care and medical equipment	Manage patient care and medical equipment
		Manage patient care and medical equipment
		Manage patient care and medical equipment
Programs and services	Develop and facilitate professional development programs	Develop and facilitate professional development programs
		Coordinate construction project management and compliance
Construction	Construction	

Flexible hierarchical activity taxonomy

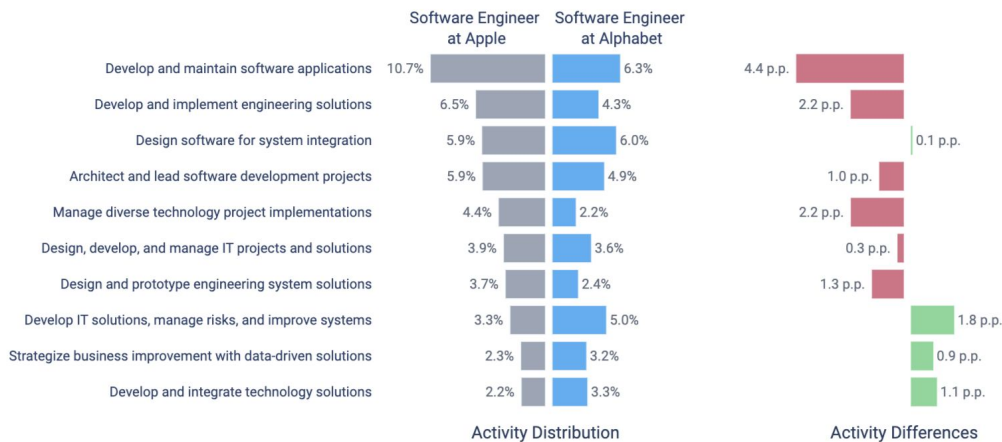
Data analysis	Analyze data to optimize business processes	Analyze data to inform business decisions
		Provide technical solutions and process optimization
	Analyze compliance data and manage regulatory risks	Analyze compliance data and manage regulatory risks
	Analyze financial data and generate reports	Analyze financial data and generate reports
	Perform scientific research and report findings	Perform scientific research and report findings

Deconstruct jobs

Activity taxonomy enables:

- Standardize jobs across different titles/contexts
- Compare jobs to each other
- Track how jobs change over time
- Measure AI exposure
- Quantify returns to various tasks

Activity profile of Software Engineer at Apple (San Jose) and Software Engineer at Alphabet



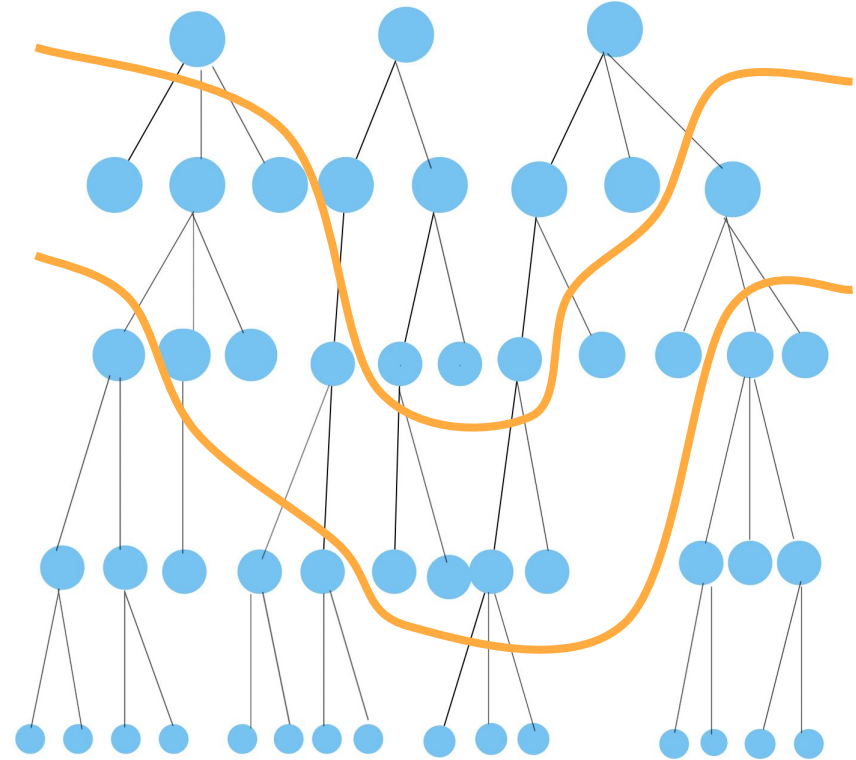
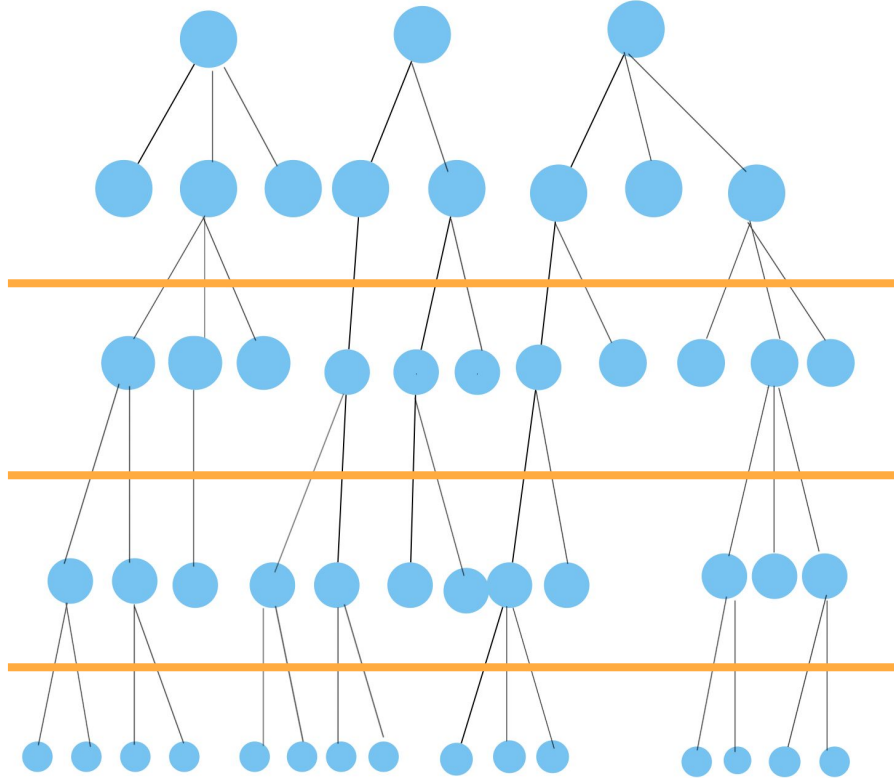
Track how jobs change over time

How has data science changed in the past decade?

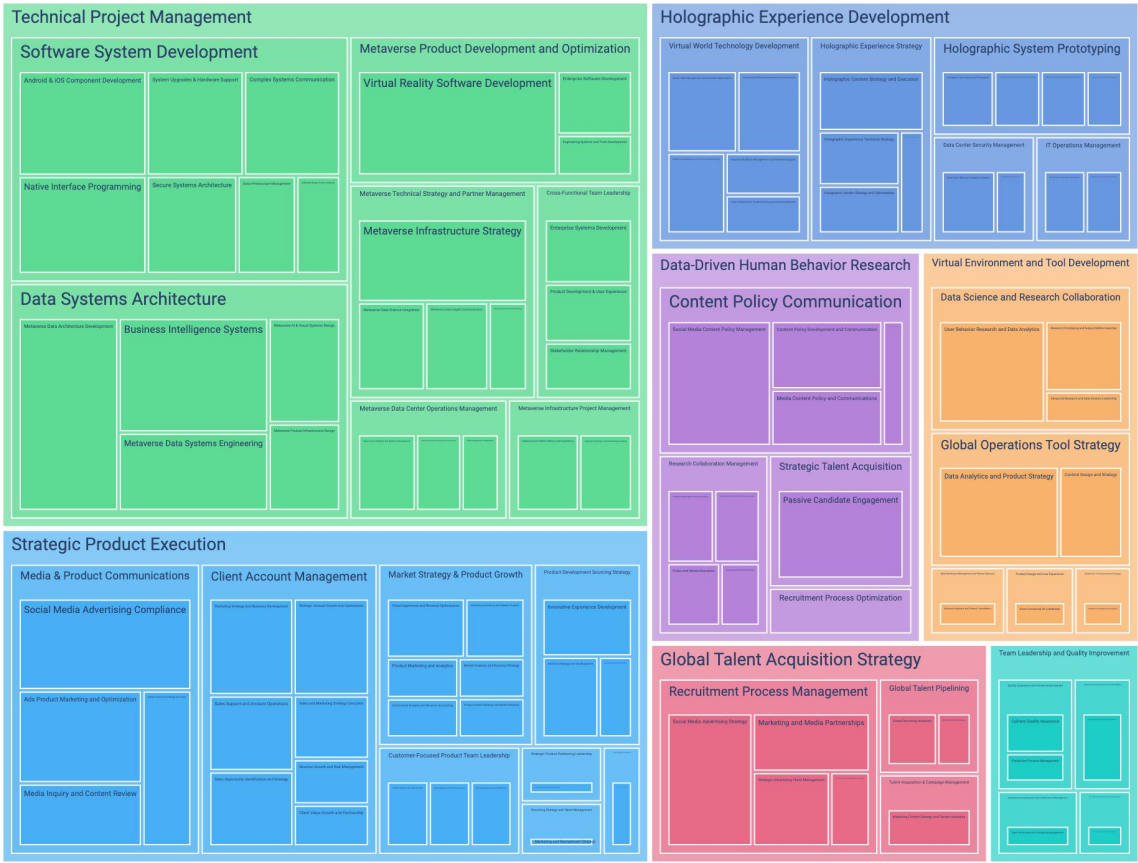
Percent change from 2014 to 2024 in activity share for data scientists



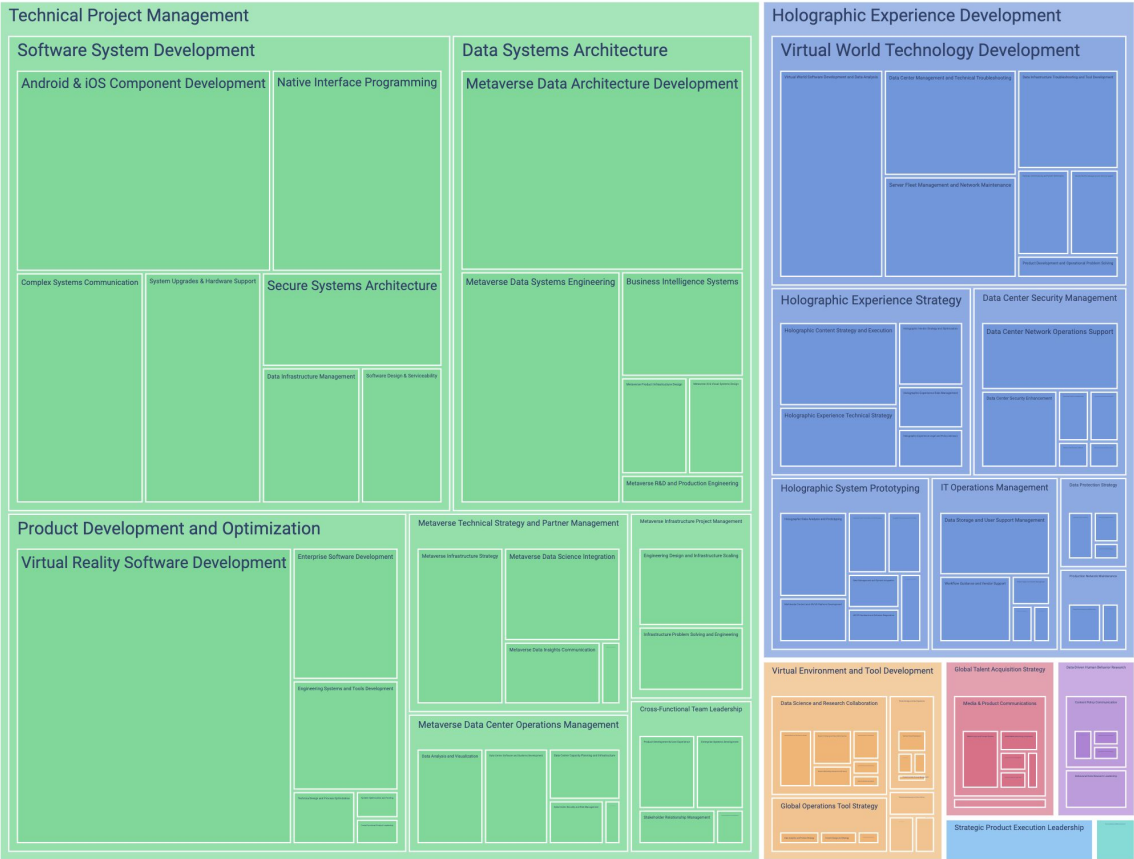
Not all companies are equal: A custom cut of the tree



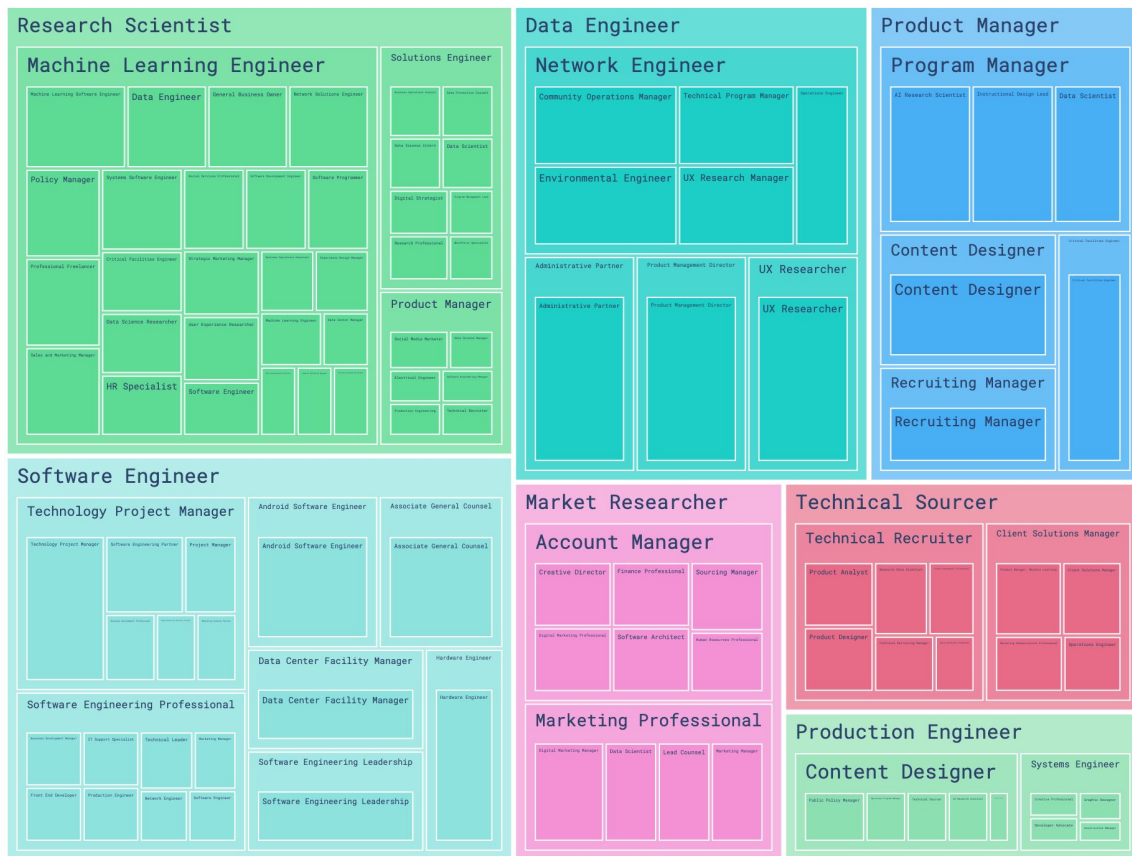
Meta Platforms: custom activity taxonomy



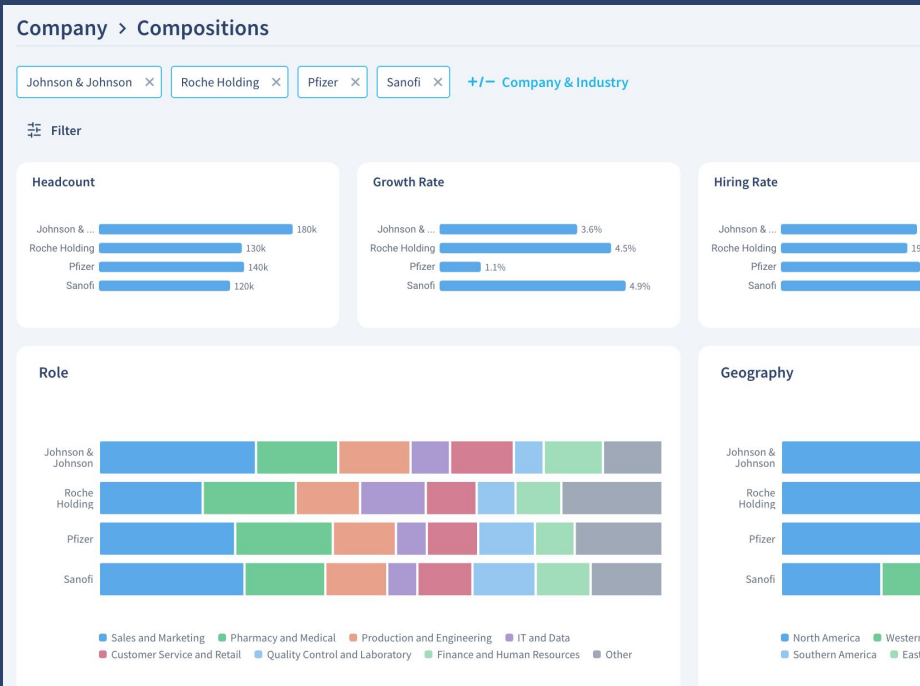
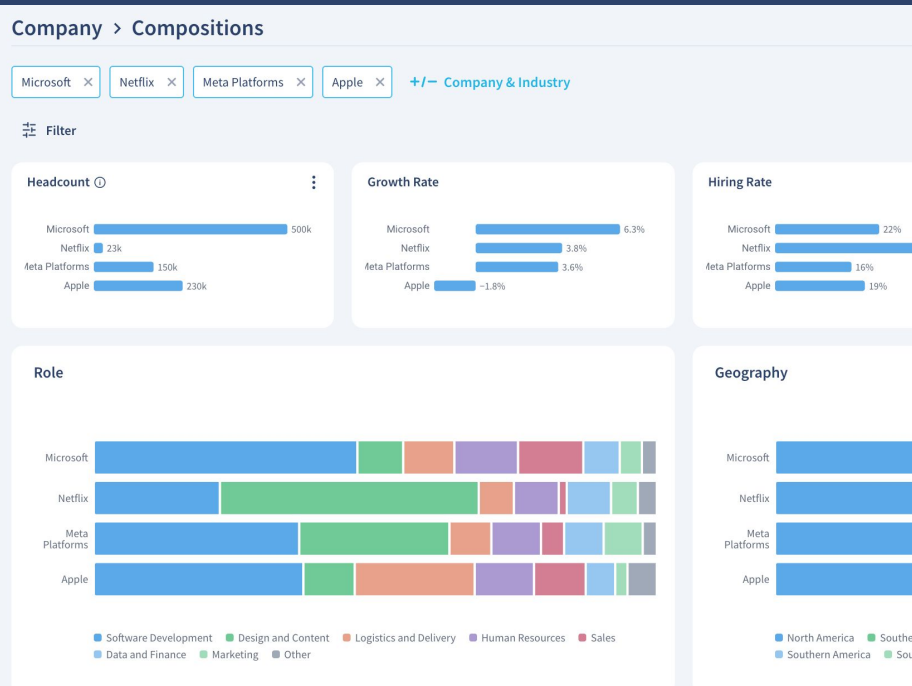
Meta: Activities for 'Site Reliability Engineer'



Meta custom role taxonomy

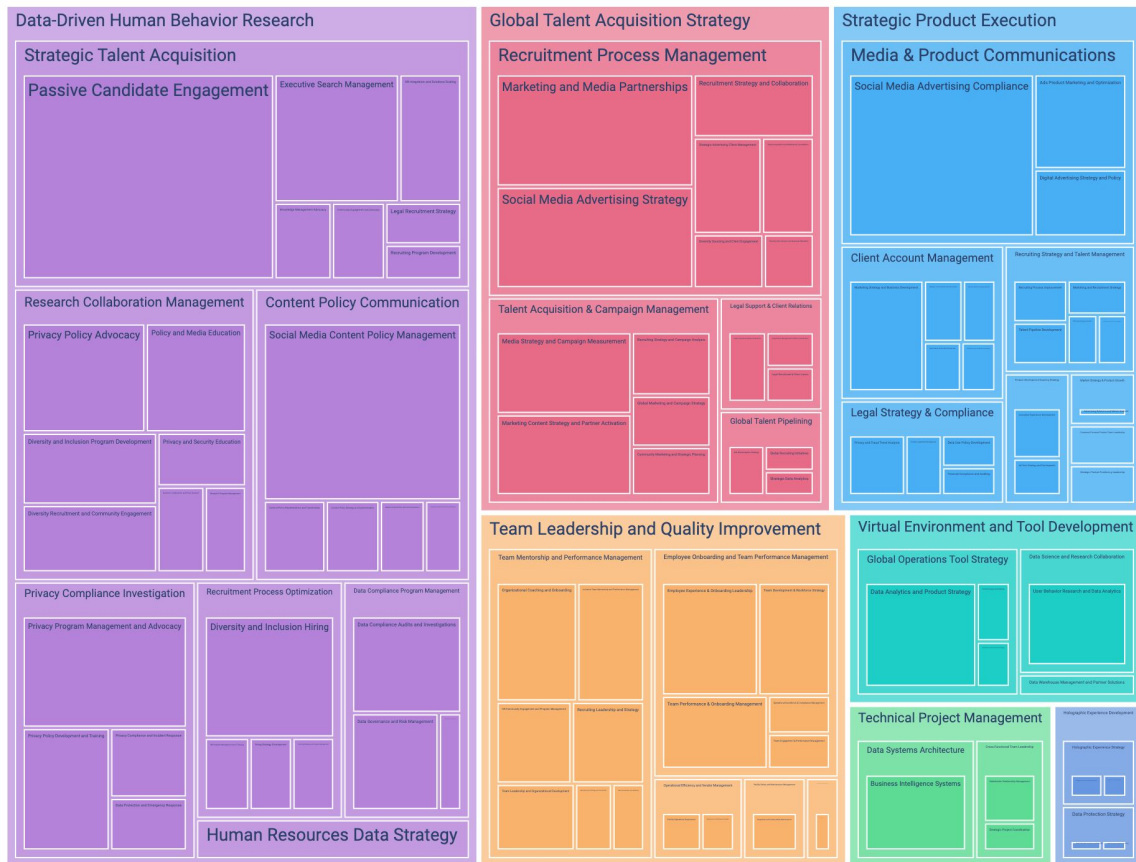


Tech vs Pharma Taxonomy

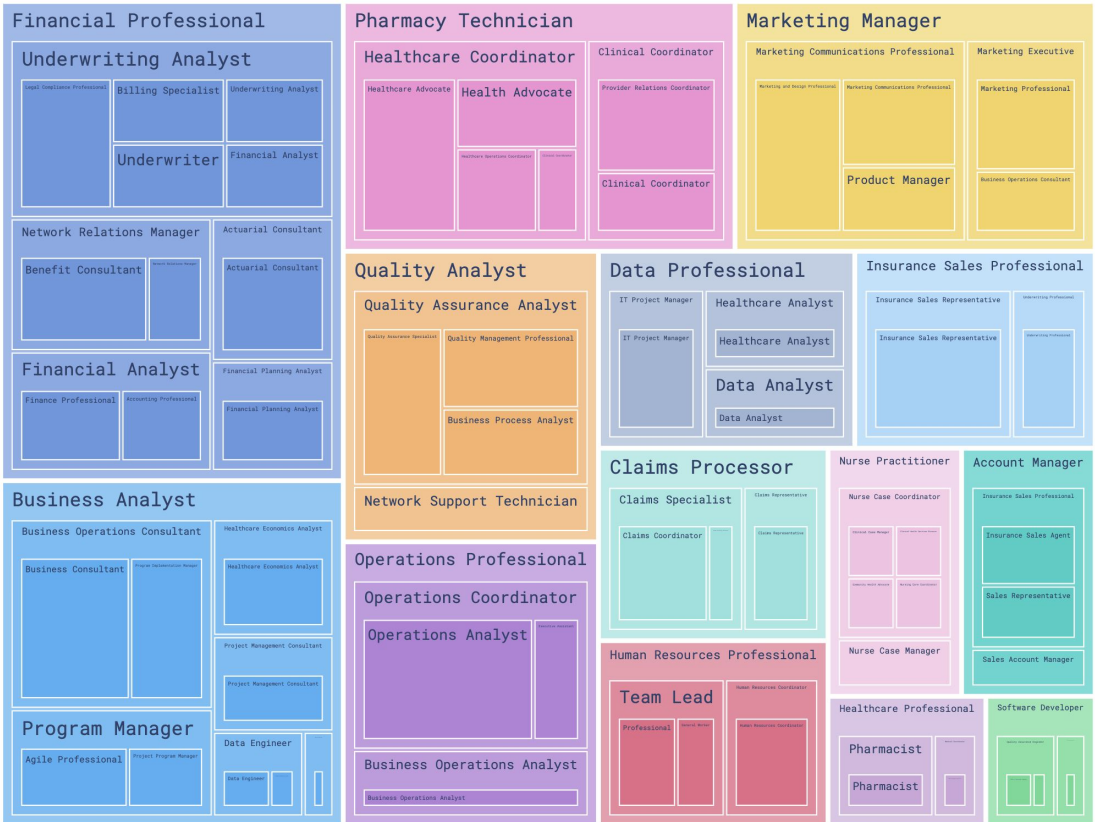


Additional material

Meta: Activities for 'HR Specialist'



United Healthcare role taxonomy



Companies use different job titles to describe the same job

Common Software Engineering titles

Alphabet

Software Development Engineer
Software Engineer
Software Development Engineer II
Software Development Engineer Intern
Software Development Manager
SDE Intern
SDE
Software Engineer Intern
Senior Software Development Engineer

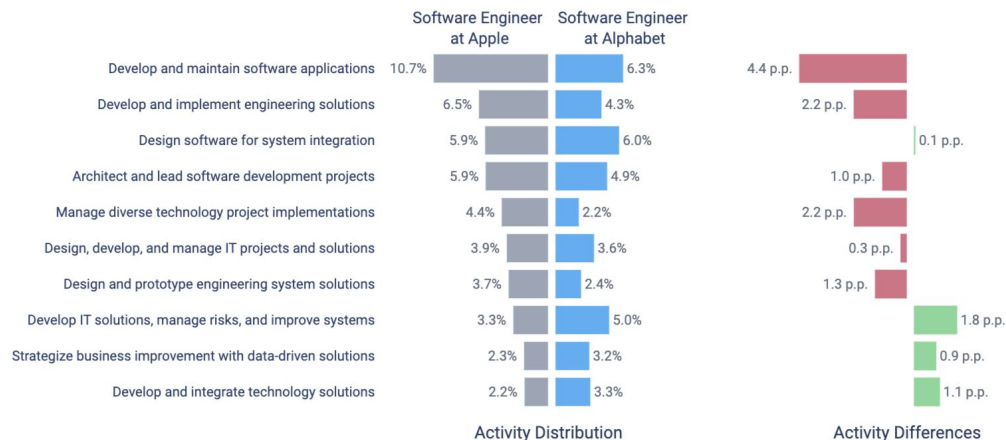
Apple

Software Engineer
Senior Software Engineer
Technical Specialist
Technical Expert
Software Engineer Intern
Software Engineering Intern
Software Engineering Manager
Software Development Engineer
Software Development

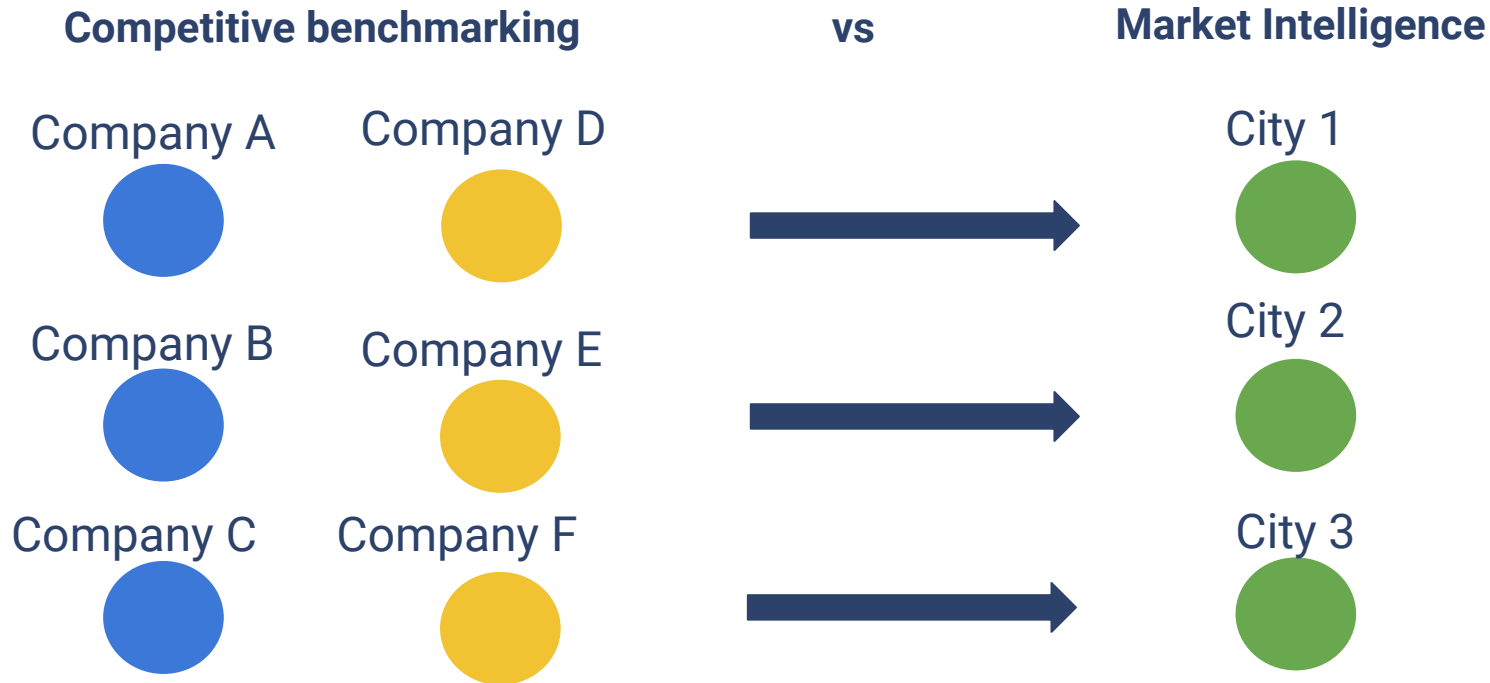
The same titles often mean very different roles and job responsibilities.

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- Activities of Software Engineers vary:

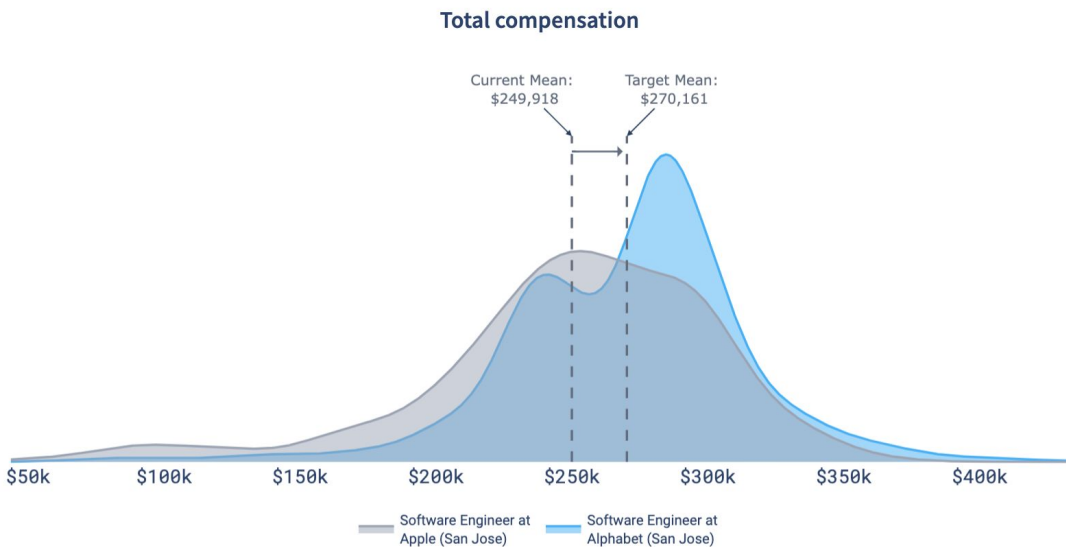
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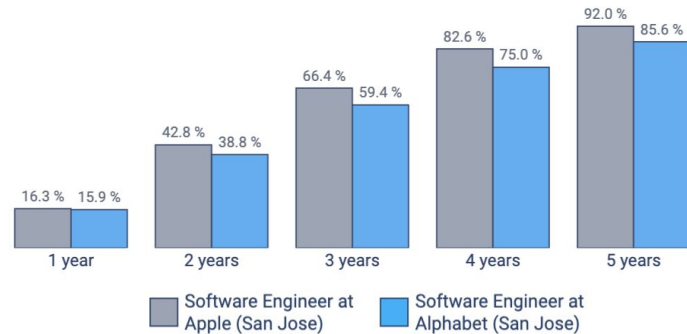
Competitive benchmarking requires more precise standardization



Apples-to-Apples is crucial for competitive benchmarking



Likelihood of a promotion from Associate to Manager, by years in the role



Benchmarking & Battle Cards

Company > Summary

Apple X Meta Platforms X +/- Company & Industry

Role is • Test Engineer (k150) X Filter

Description

We're a diverse collective of thinkers and doers, continually reimagining what's possible to help us all do what we love in new ways. And the same innovation that goes into our products also applies to our practices — strengthening our commitment to leave the world better than we found it. This is where your work can make a difference in people's lives. Including your own. Apple is an equal opportunity employer that is committed to inclusion and diversity. Visit [apple.com/careers](#) to learn more.

Founded: 1976

Headquarters: One Apple Park Way, Cupertino, United States

