Agile Skills Requirements in the Workforce

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Abstract

Careers in information technology (IT) require a myriad of skills and training. One important area of requirements is agile skills. Agile skills are the expertise that IT professionals use in an agile development environment. Examples of agile skills include sprint planning, user story creation, product backlog maintenance, and Scrum. It is assumed that regardless of IT area, the need for agile skills is essential in today's business environment. Given the importance of agile skills as part of the IS landscape and, thus, their importance to IS academic community, this research seeks to provide a deeper understanding of current industry needs for agile job skills. This is accomplished through the analysis of over 775,000 job postings referencing agile job titles and skills. Specifically, it seeks to answer the following questions: (1) What are the most common job titles associated with agile skills? (2) What skills are most associated with those job titles? and (3) How do the common and specialized skill requirements vary across job titles? Data was collected from job postings in the U.S. from July 2023 to June 2024. This study provides insights to information systems educators by 1) helping them guide their students during the job placement process, specifically when students express interest in agile, and 2) guiding curriculum design.

Keywords: Agile, Job Titles, Job Skills, IT Skills, Soft Skills, Technical Skills

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1. INTRODUCTION

Careers in information technology (IT) require a myriad of skills and training. These requirements are continually changing and should be monitored by those preparing students to enter the IT job field, those helping IT professionals to stay current, and IT professionals seeking to maintain credentials and/or successfully progress in their IT career.

One important area of requirements is agile job skills (e.g., Flynn, 2023; Sharp & Lang, 2018). It is assumed that regardless of IT area, the need for agile methodology skills (hereafter called agile skills for brevity) is essential in today's business environment. Agile skills are the expertise that IT professionals use in an agile development environment. Examples of agile skills include sprint planning, user story creation, product backlog maintenance, and Scrum. The approaches for software projects vary across companies. Many companies use waterfall, agile, and hybrid project approaches. The waterfall method is known as the long-standing traditional method. Agile methods originated for software projects in 2001 (Highsmith, 2001). When companies use hybrid project approaches, employees must be skilled in both waterfall and agile. So, the need for agile job skills is relevant even if a company is not developing IT projects using agile exclusively.

One such area where agile skills are important is in business analysis. Business analysis, often conducted by business analysts, includes problem definition, coordination of business value expectations, and solution development. According to the professional organization International Institute of Business Analysis (IIBA; 2024), 74% of the respondents said that they practice agile methodologies in their current role. IIBA also offers the Agile Analysis Certification that "meets the rising demand for collaboration between analyst and agile communities, enhancing project delivery" (IIBA, 2024, p. 14), another indicator of the importance of agile skills in business analyst jobs.

Given the importance of agile skills as part of the IS landscape and, thus, their importance to the IS academic community, this research seeks to provide a deeper understanding of current industry needs for agile job skills. This is accomplished through the analysis of over 775,000 job postings referencing agile job titles and skills. Specifically, it seeks to answer the following questions:

(1) What are the most common job titles associated with agile skills?
(2) What skills are most associated with those job titles?
(3) How do the common and specialized skill requirements vary across job titles?

The answers to these questions will benefit information systems (IS) educators. This study provides insights into job requirements for students who are interested in an agile work environment. It helps IS educators direct their students during the job placement process. Additionally, the results can guide IS curriculum development relating to agile topics.

2. LITERATURE REVIEW

Agile is a software development methodology that focuses on

- "Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan" (Beck et al., 2001, para. 2)

Agile came about because many software developers sought an alternative to "documentation driven, heavyweight software development processes" (Highsmith, 2001, para. 1). One key difference between agile and traditional approaches is that "planning efforts with the agile approaches are done more often and in an iterative manner" (Fernandez & Fernandez, 2008, p. 13). Another focus of the agile approach is its collaborative nature. "In agile environments, business analysis fosters collaboration, enables change, and ensures the software being developed effectively addresses

business needs and delivers value to stakeholders." (IIBA, 2024, p. 22).

Over the years, agile has become a major software development methodology. Seventy-one percent of companies use agile exclusively or in combination with other methodologies (Flynn, 2023). Along with the popularity and growth in the agile development methodology, companies seek employees with agile skills.

Prior research has investigated several aspects of agile skills. According to Gartner, several skills—include core skills (Scrum, Kanban, metrics, user stories, customer focus, test-first, and continuous learning), value-added skills (collaborative development, ownership and collaboration, agile architecture), and specialized/emerging skills (agile database management and scaling agile)—are essential for agile application development teams (Rimol, 2022). When answering what skills are key to working with agile frameworks, one study reported that a higher skill level is needed for collaboration, effective communication, and teamwork (Cornide-Reyes et al., 2021). Further, the study reported that technical skills are required to work with agile frameworks, but technical skills are not required to "perform well on an agile team" (Cornide-Reyes et al., 2021, p. 84731).

Individuals benefit from having agile skills and working in agile environments. IT professionals with agile skills receive an estimated 22.6% higher salaries on average (Dattero et al., 2016). Furthermore, people in organizations involved in agile processes have higher job satisfaction (Huck-Fries et al., 2023).

Prior studies analyzing job postings have identified agile skills as needed for various IT career paths (e.g., Booker et al, 2024; Chumwatana & Hpone, 2025; Gunklach et al., 2025; Joshua et al., 2023; Siswipraptini et al., 2023). However, there is a dearth of research studies focused expressly on the job titles most associated with agile skills and identifying the most in-demand skills associated with those titles. While prior research on agile in the education context exists, much of the research focuses on *how* agile is taught (e.g., Castro Lopes & Fernandes, 2024; Marnewick, 2023; Sharp et al., 2020; Woods & Hulshult,2024) rather than *what* should be taught about agile. Thus, the research presented here offers an important extension to existing research, specifically as it relates to IS education and curriculum development in an ever-changing industry environment.

3. METHODS

Since job postings are primarily comprised of the skills an ideal hire would possess, they provide a valuable data source for identifying current talent requirements. While they do not serve as a leading indicator of future in-demand skills, they do indicate current demands and are a useful tool for identifying near-term needs. We investigate our research questions using job postings data from Lightcast (Lightcast, 2025a). Lightcast regularly scrapes and stores job postings data from vetted online job posting sources. Because Lightcast scrapes job postings repeatedly from the same sources and because jobs are often posted on multiple sites, Lightcast deduplicates the data by making efforts to ensure 1) a posting is not collected again from the same source and 2) a posting listed on more than one site is only included from the original site based on fields such as company name, location, job title, and text similarity of the job posting (Harris & Clark, 2023). Lightcast also removes outliers and bad data from the dataset, such as "Postings where the employee must invest their own money" (Lightcast, 2025b, Data Curation section) and "Pyramid schemes/MLM postings" (Lightcast, 2025b, Data Curation section).

Skill Type	Skill Type Definition
Specialized Skills	Skills that are primarily required within a subset of occupations or equip one to perform a specific task (e.g. "NumPy" or "Hotel Management"). Also known as technical skills or hard skills.
Common Skills	Skills that are prevalent across many different occupations and industries, including both personal attributes and learned skills. (e.g. "Communication" or "Microsoft Excel"). Also known as soft skills, human skills, and competencies.
Software Skills	Any software tool or programming component used to help with a job (e.g. Python, Workday, AutoCAD, Microsoft Excel, React.Js, Accounting Software, and 3D Modeling Software would all be considered "Software Skills").

Table 1: Skill type names and definitions (Lightcast, 2025c).

After cleaning the data, Lightcast programmatically codes the text of each job posting into several fields—including each of the skills listed in the job posting—that can be used for more detailed analysis (Lightcast, 2025b). For this coding, Lightcast disambiguates homonyms using a minimum threshold of complimentary words (Harris & Clark, 2023). The skills are mapped to Lightcast's skill taxonomy that categorizes identified skills as specialized skills, common skills, software skills, and certifications. These skill categories are defined in Table 1.

Skill	Skill Type
Oracle Agile	Specialized Skill
Agile Auditing	Specialized Skill
SAFe Agile	Specialized Skill
Agile Methodology	Specialized Skill
Agile Leadership	Specialized Skill
Agile Coaching	Specialized Skill
Agile Certification	Certification
Agile Projects	Specialized Skill
Agile Management	Specialized Skill
Agile Modeling	Specialized Skill
Agile Testing	Specialized Skill
Agile Product Management	Specialized Skill
Agile Software Development	Specialized Skill
Agile Unified Process	Specialized Skill
Agile Product Development	Specialized Skill
Agile Project Management	Specialized Skill
Disciplined Agile Delivery	Specialized Skill
Scaled Agile Framework	Specialized Skill
IIBA Agile Analysis Certification	Certification
PMI Agile Certified Practitioner	Certification
Large Scale Agile Development	Specialized Skill
Agile Model Driven Development	Specialized Skill

Table 2: Agile skills included in our search.

Using Lightcast's web application, we ran the Job Postings Analytics report for postings marketed to the United States between July 2023 and June 2024. We searched Lightcast's skills taxonomy using the keyword "agile". After reviewing the skills that resulted from the search, we further refined our search to exclude skills not directly related to the agile methodology. Specifically, we removed the following skills from our search: "Agility", "Change Agility", "Learning Agility", "Mental Agility", "Agilent ChemStation", and "Agilent VEE (Domain-Specific Programming Language)". Table 2 shows the remaining skills included in our results.

Using the agile job postings that resulted from the search, we grouped the postings by job title to identify the job titles most commonly seeking agile skills. We then further investigated the top 10 job titles by job posting volume, focusing on which specialized and common skills were most frequently mentioned for each title.

4. RESULTS

Our search resulted in 776,321 unique job postings referencing at least one of the agile skills and certifications and targeting the US between July 2023 and June 2024.

RQ1: What are the most common job titles associated with agile skills?

Rank	Job Title	Unique Postings
1	Software Engineers	24,775
2	Project Managers	12,299
3	Business Analysts	10,972
4	Scrum Masters	8,508
5	Product Managers	7,464
6	Software Developers	6,976
7	Product Owners	6,703
8	Data Engineers	6,555
9	Java Developers	5,851
10	Full Stack Developers	5,771
11	DevOps Engineers	5,486
12	IT Project Managers	5,312
13	Program Managers	4,978
14	Principal Software Engineers	4,886
15	Full Stack Software Engineers	4,705
16	Systems Engineers	4,510
17	Business Systems Analysts	4,449
18	.NET Developers	4,127
19	Solutions Architects	4,017
20	Lead Software Engineers	3,534
21	Software Engineering Managers	3,442
22	Technical Project Managers	3,290
23	Salesforce Developers	3,008
24	Full Stack Engineers	2,908
25	Full Stack Java Developers	2,766

Table 3: Top job titles for job postings referencing agile skills by posting volume.

Table 3 lists the top job titles referencing agile skills by posting volume. These job titles accounted for 27.18% of all job postings and 20.26% of job postings referencing agile skills. The job title "Software Engineers" accounted for 11.74% (24,775) of job postings referencing agile skills. Of the top 25 job titles, none of the job titles contained "agile" in the job title. Notably, 15 job titles (42.32% of agile postings) in the top 25 job titles include "engineer" or "developer". Using the agile job postings that resulted from the search, we grouped the postings by job title to identify the job titles most commonly seeking agile skills. We then further investigated the top 10 job titles by job posting volume, focusing on which specialized and common skills were most frequently mentioned for each title.

RQ2: What skills are most associated with those job titles?

Table 4 (See Appendix) lists the specialized skills most frequently appearing in job postings for the ten most common job titles ranked by frequency of appearance. Due, in part, to the method used, "Agile Methodology" was the first or second most frequently mentioned specialized skill for each of the top 10 job titles, being mentioned in more than 85% of job postings for each title. Other skills with high frequencies across the top 10 job titles include "Computer Science" (eight titles), "Scrum" (eight titles), and various programming languages (five titles; "Java", "JavaScript", "Python", "C#", or "SQL"). Forty-eight distinct specialized skills made the top ten for at least one job title. Thirty-two of those skills were unique to one of the top 10 job titles.

There are interesting findings in the rankings for Project Managers. The top 5 are "Project Management", "Agile Methodology", "Scrum (Software Development)", "Waterfall Methodology", and "Systems Development Life Cycle". Project managers have been directly associated with traditional development for decades. So, the specialized skills of "Waterfall Methodology" and "Systems Development Life Cycle" are not surprising. "Agile Methodology" and "Scrum (Software Development)" run counter to the association with traditional development. The widespread use of hybrid development approaches (e.g., Gemino et al., 2021) may explain these findings.

"Scrum (Software Development)" is a specialized skill that ranked in the top ten job postings for 8 out of 10 job titles. Scrum is the most used agile development approach. According to Digital.ai (2022), 87% of organizations reported using Scrum methodology in 2022, up from 56% in 2020. This skill, unsurprisingly, ranks 1 for Scrum Masters and Product Owners, as these are specific roles in Scrum.

The "User Story" skill is ranked in the top 10 for only 4 job titles: Business Analysts, Scrum Masters, Product Managers, and Product Owners. It did not rank in the top ten for the other job titles including Software Developers. This could indicate 1) a lack of focus on Scrum or 2) that "Scrum (Software Development)" and "Agile Methodology" are used as umbrella terms instead of indicating specific user story skills in those job postings.

Table 5 (see Appendix) displays the top common skills for each job title. As expected, common skills were more consistent across job titles, with 27 distinct common skills compared to the 48 distinct specialized skills. "Communication" was the top ranked common skill across all job titles. This indicates the continuing need for soft skills across job titles. Both "Problem Solving" and "Management" were ranked in the top 10 for all 10 of the job titles. "Planning", "Writing", "Leadership", and "Innovation" ranked in most of the job titles.

Table 6 lists the specialized and common skills combined. Every job title had a mix of skills to make the top 10 skills overall, but the mix of skill types differed across the job titles. Data Engineers appear to have a great need for specialized skills because all the top 10 skills were specialized skills. Software Engineers, Software Developers, Java Developers, and Full Stack Developers had nine specialized skills in their top 10. Project Managers and Product Owners are the job titles with the highest number of common skills in their overall top 10.

5. DISCUSSION AND CONCLUSION

Information systems educators prepare their students for the IT workforce. This study provides insights to IS educators by 1) helping them guide their students during the job placement process, specifically when students express interest in agile, and 2) guiding curriculum design. This finding suggests that a wide variety of jobs require agile skills, and the word "agile" may not be in the job title.

In this study, we found the most common job

titles associated with agile skills span across different types of jobs ranging from project management-related job titles (e.g., Project Managers, Scrum Masters) to developer/engineer job titles (e.g., Full Stack Developers, Software Engineers). We also identified which skills are most associated with those job titles and found that skills such as "Agile Methodology" and "Communication" ranked in the top 10 skills for all the top 10 job titles. This suggests that, like most jobs, jobs requiring agile skills require communication skills. However, we found a mix of top skills across the top 10 job titles, indicating that agile skills can be beneficial in jobs with different mixes of skills.

This research offers several practical applications. First, students learning about agile may want to work in a job that uses agile skills. We found many instances where a job title doesn't have "agile" in it, but the job requires agile skills. This indicates that students should be attentive in reading the full job description when applying for jobs, and that students need to broaden their search parameters to find hidden attributes in job descriptions. This research, indicating job titles connected to those skills, helps students know what jobs are relevant in their job search. This information can help instructors and advisors guide students to those jobs.

Second, our data indicated that Waterfall-like skills were sought even though we were searching for agile. This finding indicates the use of a hybrid approach among employers. In a related study, more widespread use of the hybrid approach was found than expected (Gemino et al., 2021). About fifty percent of their sample used the hybrid approach, which the authors suggest "represents a maturing of the project management discipline" (Gemino et al., 2021, p. 170). Because agile approaches are somewhat newer, students may want to focus exclusively on developing agile related skills. It's imperative that faculty introduce the reality of hybrid development.

On the surface, using the best of both waterfall and agile seems advantageous. However, hybrid software development requires skills from both approaches. Further, incorporating the hybrid approach creates complexity due to the prevailing organizational culture and the current skills of IT professionals. Curriculum and professional development should include the hybrid approach to prepare students and current IT professionals for this organizational environment. This means going beyond teaching waterfall and agile development separately to incorporating the combination of both when developing software solutions for businesses.

Third, this information could guide academic programs to develop curriculum that includes agile content. For example, several of the job titles were related to software engineering. This may indicate that programming-related disciplines could benefit from including agile skills development.

As with all research, this research has limitations. One limitation of the study was that we only used U.S. job postings. However, the results may be different in other countries. The skills required for agile workers vary between the U.S. and Germany (Aldenhoven et al., 2021). In line with this difference between countries, it is possible that the most common job titles associated with agile skills and the skills associated with those job titles may vary in other countries. Future research could look at international job postings for more generalizability or job postings in countries other than the U.S. for comparison.

This study is also limited by our measures and data. We assume that job postings directly indicate the skill requirements for jobs, in line with prior research (Harris & Clark, 2023). However, job postings are not always a direct reflection of the jobs. For example, job posting web sites may limit the length of the text of the job postings. If the job posting is not limited by the job posting web site, they are limited by the attention spans of the applicants. As mentioned in the methods section, job postings also serve as a lagging indicator of skill needs and are, thus, not predictive of what skills might be required in the future.

Furthermore, we assume that the job posting is both written by the poster and received by potential applicants with no outside motivations and biases. However, job postings could be written to scare away potential applicants (Clearpoint, 2016). Alternatively, job postings could be written to persuade potential applicants to apply. For example, software developers who use agile methodology more tend to have more favorable perceptions about their jobs than software developers who use agile methodology less (Sun & Schmidt, 2018). Employers may use these more positive perceptions to attract more applicants by including agile in the job postings.

Furthermore, employees generally perceive agile transformation—moving from traditional software development approaches to an agile software development approach—as a positive change for the organization, but agile transformation comes with pains including things like resistance (Nerur et al., 2005). Including agile skills in a job posting could signal to potential applicants that the agile transformation has already occurred. Employees will then reap the benefits of the agile environment without dealing with the struggles of the process of changing.

Future research can address the limitation related to job postings being a true representation of the job requirements by gathering data using other methodologies. For example, researchers could conduct interviews with hiring managers. This approach would avoid the issues noted above that are related specifically to job postings data.

Our study is also limited by the timeframe of the data. We pulled job postings between July 2023 and June 2024. This year of data provides some valuable insights into jobs that require agile skills. However, future research could investigate the change over time in jobs that require agile skills. This longitudinal study would provide additional insights for IS research with regards to how the IT job market has changed.

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Appendix										
Skill Rank	Software Engineers	Project Managers	Business Analysts	Scrum Masters	Product Managers	Software Developers	Product Owners	Data Engineers	Java Developers	Full Stack Developers
1	Agile Methodology (91.31%)	Project Management (99.68%)	Agile Methodology (92.70%)	Scrum (Software Development) (100.00%)	Product Management (98.22%)	Agile Methodology (92.50%)	Scrum (Software Development) (99.82%)	Data Engineering (98.84%)	Java (Programming Language) (99.88%)	Full Stack Development (99.45%)
2	Software Engineering (82.53%)	Agile Methodology (87.10%)	Business Requirements (51.04%)	Agile Methodology (98.88%)	Agile Methodology (87.63%)	Computer Science (57.80%)	Agile Methodology (94.06%)	Agile Methodology (93.99%)	Agile Methodology (93.27%)	Agile Methodology (95.11%)
3	Software Development (64.41%)	Scrum (Software Development) (37.10%)	Business Process (45.73%)	Sprint Retrospectives (51.20%)	New Product Development (43.60%)	JavaScript (Programming Language) (52.12%)	User Story (64.17%)	SQL (Programming Language) (77.82%)	Spring Framework (52.32%)	JavaScript (Programming Language) (64.15%)
4	Computer Science (58.89%)	Waterfall Methodology (32.04%)	User Story (45.64%)	Sprint Planning (47.98%)	Product Roadmaps (41.77%)	Software Development (51.25%)	Product Management (53.07%)	Python (Programming Language) (73.96%)	Spring Boot (48.78%)	Angular (Web Framework) (55.28%)
5	Java (Programming Language) (40.73%)	Systems Development Life Cycle (26.96%)	Scrum (Software Development) (44.16%)	JIRA (45.72%)	Scrum (Software Development) (40.85%)	SQL (Programming Language) (40.41%)	New Product Development (31.60%)	Extract Transform Load (ETL) (64.30%)	Computer Science (44.45%)	Application Programming Interface (API) (48.80%)
6	Amazon Web Services (36.19%)	JIRA (24.71%)	Business Analysis (41.68%)	Continuous Improvement Process (39.79%)	Product Strategy (33.67%)	C# (Programming Language) (39.23%)	Product Roadmaps (30.96%)	Data Warehousing (54.71%)	SQL (Programming Language) (42.08%)	React.js (Javascript Library) (46.72%)
7	JavaScript (Programming Language) (35.41%)	Milestones (Project Management) (24.42%)	Project Management (41.52%)	Project Management (39.77%)	User Story (31.89%)	Java (Programming Language) (38.95%)	Project Management (30.48%)	Computer Science (53.90%)	Microservices (39.46%)	Java (Programming Language) (46.44%)
8	Python (Programming Language) (33.98%)	Project Planning (24.21%)	JIRA (35.33%)	Kanban Principles (26.76%)	Marketing (30.09%)	Angular (Web Framework) (32.37%)	JIRA (27.29%)	Data Pipelines (48.62%)	RESTful API (38.61%)	Amazon Web Services (44.81%)
9	Scrum (Software Development) (31.86%)	Project Scoping (21.94%)	Computer Science (26.08%)	User Story (26.55%)	Computer Science (29.38%)	Scrum (Software Development) (30.73%)	Computer Science (26.33%)	Amazon Web Services (46.01%)	Scrum (Software Development) (35.40%)	Computer Science (42.64%)
10	SQL (Programming Language) (31.62%)	Microsoft Project (21.14%)	Workflow Management (24.64%)	Software Development (25.28%)	Project Management (27.33%)	Git (Version Control System) (29.37%)	User Experience (UX) (24.54%)	Data Modeling (43.60%)	JavaScript (Programming Language) (33.65%)	SQL (Programming Language) (40.81%)

Table 4: Top ranking specialized skills by frequency of appearance in agile job postings.

Skill Rank	Software Engineers	Project Managers	Business Analysts	Scrum Masters	Product Managers	Software Developers	Product Owners	Data Engineers	Java Developers	Full Stack Developers
1	Communication (38.53%)	Communication (67.10%)	Communication (57.84%)	Communication (61.82%)	Communication (57.64%)	Communication (33.89%)	Communication (60.57%)	Communication (40.98%)	Communication (36.80%)	Communication (48.12%)
2	Problem Solving (28.75%)	Management (56.99%)	Problem Solving (38.29%)	Planning (46.91%)	Leadership (41.97%)	Troubleshooting (Problem Solving) (24.53%)	Leadership (42.53%)	Problem Solving (28.47%)	Problem Solving (26.87%)	Problem Solving (29.73%)
3	Troubleshooting (Problem Solving) (23.98%)	Leadership (50.40%)	Management (33.86%)	Leadership (41.49%)	Prioritization (34.31%)	Problem Solving (23.28%)	Planning (38.59%)	Management (26.86%)	Troubleshooting (Problem Solving) (21.21%)	Troubleshooting (Problem Solving) (28.52%)
4	Management (22.63%)	Planning (42.69%)	Writing (23.61%)	Coaching (38.47%)	Customer Service (34.11%)	Management (20.04%)	Prioritization (38.45%)	Operations (18.83%)	Management (13.21%)	Management (20.00%)
5	Innovation (19.89%)	Problem Solving (30.84%)	Planning (20.99%)	Management (37.34%)	Problem Solving (32.06%)	Information Technology (15.19%)	Management (36.10%)	Troubleshooting (Problem Solving) (18.70%)	Information Technology (10.12%)	Operations (14.73%)
6	Planning (16.90%)	Coordinating (27.09%)	Detail Oriented (20.18%)	Problem Solving (32.65%)	Management (30.48%)	Writing (14.64%)	Problem Solving (28.91%)	Innovation (18.00%)	Writing (9.72%)	Innovation (14.09%)
7	Operations (15.93%)	Timelines (26.57%)	Microsoft Excel (19.60%)	Prioritization (26.65%)	Influencing Skills (29.31%)	Planning (13.50%)	Customer Service (25.91%)	Leadership (15.94%)	Self-Motivation (9.02%)	Writing (13.39%)
8	Writing (15.62%)	Presentations (20.78%)	Leadership (18.20%)	Decision Making (24.01%)	Innovation (27.69%)	Innovation (12.92%)	Writing (23.87%)	Mentorship (15.82%)	Innovation (8.99%)	Information Technology (11.16%)
9	Leadership (14.82%)	Program Management (19.80%)	Presentations (17.66%)	Mentorship (22.56%)	Planning (27.49%)	Detail Oriented (12.13%)	Innovation (20.71%)	Customer Service (12.74%)	Planning (7.83%)	Leadership (10.67%)
10	Mathematics (13.35%)	Writing (19.80%)	Microsoft PowerPoint (16.39%)	Information Technology (20.92%)	Sales (26.10%)	Operations (11.93%)	Research (19.87%)	Writing (12.57%)	Operations (7.67%)	Detail Oriented (9.77%)

Table 5: Top ranking common skills by frequency of appearance in agile job postings.

Skill Rank	Software Engineers	Project Managers	Business Analysts	Scrum Masters	Product Managers	Software Developers	Product Owners	Data Engineers	Java Developers	Full Stack Developers
1	Agile Methodology (91.31%)	Project Management (99.68%)	Agile Methodology (92.70%)	Scrum (Software Development) (100.00%)	Product Management (98.22%)	Agile Methodology (92.50%)	Scrum (Software Development) (99.82%)	Data Engineering (98.84%)	Java (Programming Language) (99.88%)	Full Stack Development (99.45%)
2	Software Engineering (82.53%)	Agile Methodology (87.10%)	Communication (57.84%)	Agile Methodology (98.88%)	Agile Methodology (87.63%)	Computer Science (57.80%)	Agile Methodology (94.06%)	Agile Methodology (93.99%)	Agile Methodology (93.27%)	Agile Methodology (95.11%)
3	Software Development (64.41%)	Communication (67.10%)	Business Requirements (51.04%)	Communication (61.82%)	Communication (57.64%)	JavaScript (Programming Language) (52.12%)	User Story (64.17%)	SQL (Programming Language) (77.82%)	Spring Framework (52.32%)	JavaScript (Programming Language) (64.15%)
4	Computer Science (58.89%)	Management (56.99%)	Business Process (45.73%)	Sprint Retrospectives (51.20%)	New Product Development (43.60%)	Software Development (51.25%)	Communication (60.57%)	Python (Programming Language) (73.96%)	Spring Boot (48.78%)	Angular (Web Framework) (55.28%)
5	Java (Programming Language) (40.73%)	Leadership (50.40%)	User Story (45.64%)	Sprint Planning (47.98%)	Leadership (41.97%)	SQL (Programming Language) (40.41%)	Product Management (53.07%)	Extract Transform Load (ETL) (64.30%)	Computer Science (44.45%)	Application Programming Interface (API) (48.80%)
6	Communication (38.53%)	Planning (42.69%)	Scrum (Software Development) (44.16%)	Planning (46.91%)	Product Roadmaps (41.77%)	C# (Programming Language) (39.23%)	Leadership (42.53%)	Data Warehousing (54.71%)	SQL (Programming Language) (42.08%)	Communication (48.12%)
7	Amazon Web Services (36.19%)	Scrum (Software Development) (37.10%)	Business Analysis (41.68%)	JIRA (45.72%)	Scrum (Software Development) (40.85%)	Java (Programming Language) (38.95%)	Planning (38.59%)	Computer Science (53.90%)	Microservices (39.46%)	React.js (Javascript Library) (46.72%)
8	JavaScript (Programming Language) (35.41%)	Waterfall Methodology (32.04%)	Project Management (41.52%)	Leadership (41.49%)	Prioritization (34.31%)	Communication (33.89%)	Prioritization (38.45%)	Data Pipelines (48.62%)	RESTful API (38.61%)	Java (Programming Language) (46.44%)
9	Python (Programming Language) (33.98%)	Problem Solving (30.84%)	Problem Solving (38.29%)	Continuous Improvement Process (39.79%)	Customer Service (34.11%)	Angular (Web Framework) (32.37%)	Management (36.10%)	Amazon Web Services (46.01%)	Communication (36.80%)	Amazon Web Services (44.81%)
10	Scrum (Software Development) (31.86%)	Coordinating (27.09%)	JIRA (35.33%)	Project Management (39.77%)	Product Strategy (33.67%)	Scrum (Software Development) (30.73%)	New Product Development (31.60%)	Data Modeling (43.60%)	Scrum (Software Development) (35.40%)	Computer Science (42.64%)

Note: Specialized skills are shaded gray.

Table 6: Top ranking combined skills (specialized and common) by frequency of appearance in agile job postings.