m.8.Exercises.an.templates → Navigating Data Employment Assessments

Task ⇒ Perform an Assessment of a Data Professional's Skill Ontology

Task.1⇒ mark skill experience by each domain category item in the **Skill?** column.
Task.2⇒ print a desired LinkedIN position and identify **Skill Gap?** items for remediation.

ID	Data Professional's Skill Ontology └ Essential skills, competencies, and capabilities for data professionals	Skill? Yn	Skill Gap? Yn
1	└ Education		
2	│ ├ Advanced degree in a quantitative discipline		
3	│ ├ Mathematics, Linguistics, Computer Science		
4	│ ├ Enrolled in an M.S./Ph.D. program in Comp. Science or Elect. Engineer		
5			
6	└ Experience		
7	│ ├ Industry or academic experience in applied NLP - 2+ years		
8	│ ├ Research experience in fields such as machine learning, languages		
9	│ └ program synthesis, software eng., or human-computer interaction		
10	│ ├ Research or practical experience in applying deep learning		
11	│ └ on large-scale and real-world data - 3+years		
12			
13	└ Programming and Technical Skills		
14	│ ├ Familiarity with OCR libraries like Tesseract, PyOCR, OpenCV, .NET, SDK		
15	│ ├ Extracting, cleaning, and preprocessing data sets using NumPy and Pandas		
16	│ ├ Knowledge of supervised and unsupervised machine learning techniques		
17	│ └ regression models, decision tree models, clustering, deep learning		
18	│ └ with tools like Scikit-learn, Tensorflow, Keras, or PyTorch		
19	│ ├ Data visualization skills using tools such as Matplotlib, Tableau, etc		
20	│ ├ Familiarity with rule-based NLP like CFG, constituency, and parsing		
21	│ └ and related libraries including NLTK, spaCy, Stanford NLP		
22	│ ├ Specialization in OCR and familiarity with Transformers, ELMo, and BERT		
23	│ ├ Experience with Python NLP packages like Spacy, NLTK, and		
24	│ └ Statistical packages familiarity like R, Python, SPSS, SAS, STATA		
25	│ ├ Experience with deep learning techniques and publishing in related		
26	│ └ conferences (ICML, CVPR, NeurIPS)		
27	│ ├ Handling and analyzing data at scale w Hadoop, Dask, Spark, MapReduce		
28	│ ├ Working knowledge of data store tools like SQL, Elasticsearch		
29			
30	└ Analytical and Problem-Solving Skills		
31	│ ├ Proficiency in quantitative and qualitative analytical techniques rooted		
32	│ └ in business, economic, and statistical analysis		
33	│ ├ Ability to perform business analysis of market competitiveness,		
34	│ └ financial analysis, social media monitoring		
35	│ ├ Expertise in statistical analysis (linear & logistic regression,		
36	│ └ nonparametric statistics, probabilistic modeling, spatial modeling		
37	│ ├ Ability to tell stories using data		
38	│ ├ Strong problem-solving abilities		
39			
40	└ Additional Skills and Preferences		
41	│ ├ Knowledge of healthcare industry practices and medical coding (a plus)		
42	│ ├ Experience with computational imaging, cyber security, dist systems,		
43	│ └ logistics, next-generation networking, quantum information processing,		
44	│ └ sensor systems, speech and language processing, etc.		
45	│ ├ Security Clearance (for specific positions)		
46	│ ├ Experience managing, coding, and analyzing qualitative data using		
47	│ └ content analysis software		
48	│ ├ Time series analysis expertise (Prophet, ARIMA, LSTMs)		
49	│ ├ Writing maintainable, testable, production-grade Python code		
50	│ ├ Understanding of different machine learning and deep learning algorithm		
51	│ └ families and their tradeoffs		
52	│ ├ Experience with Selenium and SeleniumGrid		
53	│ ├ Data analytics, data mining, or other data science skills		
54	│ ├ Database experience, preferably working with Mongo databases		
55	│ ├ Experience working with data in Information Security, Cybersecurity,		
56	│ └ or Threat Intelligence		
	│ ├ Experience working with bulletin boards and forums		

Task ⇒ Perform an Assessment of Organizational Congruence

Task.1⇒ Apply a percentage value or weight for each of the six categories totaling 100%.

Task.2⇒ Print a desired LinkedIN position and assign a percent agreement per item.

Task.3 ⇒ Add up percentages for a score indicating the degree a candidate aligns with an organization.

ID	Data Professional's Assessment of Organizational Congruence └ evaluate organization goals, structures, processes, values, and culture	%
1	└ **Assess Organization Dynamics**	
2	├ Assess organizational behavior, values, and culture	
3	└ Assess candidate skills, experiences, and aptitudes for the	
4	position	
5	└ Determine the level of alignment between the candidate capabilities	
6	└ and the position requirements.	
7		
8	└ **Position Proficiency**	
9	├ Identify skills, competencies, and qualifications required.	
10	└ Map skills and competencies required to deliver position remits	
11	└ Map special skills required, such as scientific paper writing	
12		
13	└ **Evaluate Existing Skills to Position Fit**	
14	├ Evaluate current candidate skills, experiences, and learning aptitudes	
15	└ Determine the ratio of skills on hand to the total skills required	
16	└ Determine the time and effort required to perform upskill demands	
17	└ Assess personal goals to new skills required by the position	
18		
19	└ **Cultural Compatibility Analysis**	
20	├ Analyze the candidates values, work style, and communication approach	
21	└ Determine any compatibility issues with organizational culture	
22	└ for example: do employees regularly hang out after work?	
23	└ Determine the positions expected life cycle before turnover	
24	└ Learn how long current employees have been with the company	
25		
26	└ **Identify Academic Schooling Requirements**	
27	├ Identify the education experience of existing employees	
28	└ Assess costs and commitment required	
29	└ Understand if future leadership roles require terminal degrees	
30		
31	└ **Learning agility and future skilling**	
32	├ Learn the mechanics of the companys talent management system.	
33	└ When the timing is right, initiate an upfront conversation with	
34	└ Manager and human resources about short-term upskill goals	
35	└ Request an assessment of perceived future leadership potential	
36	└ As a refresher, career sustainability stems from upskilling	
37	choices	
38	└ Embrace proactive learning and dynamic skill development to	
	└ enhance adaptability and demonstrate evolving proficiency.	