# Employability Analytics App DAX Measures Overview

This document outlines the key data transformation methods and DAX expressions applied during the development of our Employability Analytics dashboard. The process involved both preprocessing raw job description data and computing derived metrics to enable powerful visualizations. Below is a structured summary of each step:

|  |  |  |
| --- | --- | --- |
| Measure | Logic Used | Purpose |
| MinExperience | VAR cleanedText = SUBSTITUTE(LOWER([Experience]), " years", "") VAR minVal = LEFT(cleanedText, FIND("to", cleanedText) - 1) RETURN VALUE(TRIM(minVal)) | Extracts the minimum years of experience from a textual range. |
| MaxExperience | VAR cleanedText = SUBSTITUTE(LOWER([Experience]), " years", "") VAR maxVal = MID(cleanedText, FIND("to", cleanedText) + 3, LEN(cleanedText)) RETURN VALUE(TRIM(maxVal)) | Extracts the maximum years of experience from a textual range. |
| AvgExperience | ([MinExperience] + [MaxExperience]) / 2 | Computes the average years of experience by combining Min and Max Experience. |
| MinSalary | VALUE(SUBSTITUTE(SUBSTITUTE(LEFT([Salary Range], FIND("-", [Salary Range]) - 1), "$", ""), "K", "")) \* 1000 | Parses and converts the minimum salary from string format to a numeric value in USD. |
| MaxSalary | VALUE(SUBSTITUTE(SUBSTITUTE(MID([Salary Range], FIND("-", [Salary Range]) + 1, LEN([Salary Range])), "$", ""), "K", "")) \* 1000 | Parses and converts the maximum salary from string format to a numeric value in USD. |
| AvgSalary | ([MinSalary] + [MaxSalary]) / 2 | Computes the average salary from the minimum and maximum salary range. |
| SkillRank | RANKX(  ALL('Skills'[Skill]),  CALCULATE(COUNTROWS('JobPostings')),  ,  DESC,  DENSE ) | Ranks each skill by the number of job postings it appears in. Useful for highlighting trending skills. |
| TopRoleByCountry | VAR RoleCountTable =   ADDCOLUMNS(  SUMMARIZE('JobPostings', 'JobPostings'[Country], 'JobPostings'[Role]),  "RoleCount", COUNTROWS('JobPostings')  ) RETURN CALCULATE(  MAXX(  FILTER(RoleCountTable, [Country] = EARLIER('JobPostings'[Country])),  [Role]  ) ) | Identifies the most common job role for each country. |
| HighExpDemand | IF([AvgExperience] > 6, "Yes", "No") | Flags roles that require higher-than-average experience (above 6 years). |
| SalaryExpRatio | DIVIDE([AvgSalary], [AvgExperience], 0) | Calculates how much salary is earned per year of required experience. |
| RemoteJobPercent | DIVIDE(  CALCULATE(COUNTROWS('JobPostings'), 'JobPostings'[WorkType] = "Remote"),  COUNTROWS('JobPostings'),  0 ) \* 100 | Determines what percentage of total job listings are remote. |
| CountryAvgSalary & SalaryDiffFromCountryAvg | CountryAvgSalary =  CALCULATE(  AVERAGE('JobPostings'[AvgSalary]),  ALLEXCEPT('JobPostings', 'JobPostings'[Country]) )  SalaryDiffFromCountryAvg =  [AvgSalary] - [CountryAvgSalary] | Compares each job’s salary to its country’s average to highlight above or below market rates. |
| SkillScore | CALCULATE(  COUNTROWS(  INTERSECT(  VALUES('Skills'[Skill]),  VALUES('InDemandSkills'[Skill])  )  ) ) | Scores job listings based on overlap with a predefined list of in-demand skills. |

**Additional Data Transformation:**

A critical transformation involved splitting multi-skill columns into individual skill rows. This normalization of the 'skills' column enabled more granular insights, such as frequency of each skill and filtering jobs by a single skill (e.g., Python). This was achieved using Power Query’s split and unpivot operations or Python-based row expansion.