SKILLSCAPE

WORKFORCE

dashboard

UC San Diego
Skillscape Workforce Dashboard
USER GUIDE

OVERVIEW

UC San Diego's Skillscape Workforce Dashboard provides workforce demand and supply data for each of California's 26 metropolitan statistical areas, the state of California, and the nation as a whole. The tool is designed to primarily help identify regional and local skills gaps that can be targeted through new or existing academic programs. A complete description of the tool and its attributes can be found in the UC San Diego Skillscape Workforce Dashboard Technical Guide.

The tool consists of 8 main dashboards:

- Regional Overview
- Cluster Postings
- Cluster Demand
- Skill Demand by Cluster
- Skill Demand (Aggregate)
- Skill Gaps
- Skill Clusters
- Regional Opportunities

Each dashboard organizes the workforce data in different ways using various filters to refine your search. You can filter geographically as well as by career areas, career sub-areas, and skills. Skillscape allows you to filter skills in multiple ways, including by specific skills, clusters of related skills, and broad categories of skill types. Filters can be combined in different ways to provide different views of workforce demand and supply. Each dashboard offers a distinct view on labor market demand and supply across California's MSAs, the state of California, and the Nation.

This user guide provides a description of how to search using each of the dashboards. The first section below provides brief definitions for key terms used in the dashboards. (For more in-depth descriptions of the key terms, see the UC San Diego Skillscape Workforce Dashboard Technical Guide.) The next section details each of the available filters and how they can be combined to organize the data. The final section describes each of the dashboards and how to use them.

DEFINITIONS

CAREER SUB-AREA: A group of related occupations that capture a broad sector of the labor market.

CLUSTER THEME (OR SKILL CLUSTER): A name for a cluster of skills within a career sub-area. For example, Software Development: Front End Development is a cluster theme within the career sub-area Software Development and Programming that includes skills such as CSS, Java Script, and HTML. Cluster themes can be thought of as broader roles within career sub-areas. They are derived from patterns of correlation between skills in job postings.

SKILLS: The particular knowledge, abilities, technologies, etc. identified through analysis of job postings.

SKILL CLUSTER METADATA: Data drawn from a sample of representative job postings for a skill cluster. These data include the most frequent companies, education levels, job titles, industries, and occupations mentioned in the sampled job postings.

SKILL IMPORTANCE SCORE: A score that indicates the importance of a skill to a given cluster. For example, in the skill cluster Software Development: Front End Development, the skill Cascading Style Sheets (CSS) has a skill importance score of .9000 and the skill JavaScript (Programming Language) has a skill importance score of .7563. Skill importance scores are based on the presence of skills in job postings.

FILTERS

There are four main types of filters that you can use to organize the labor market data. In most cases, filters are active across dashboards, meaning that a filter set in one dashboard will affect other dashboards.

GEOGRAPHICAL FILTERS: Allow you to filter by geographical region. Regions include all of California's metropolitan statistical areas (MSAs), the state of California, and the nation. Note: You cannot filter for states other than California or for MSAs outside of California.

CAREER FILTERS: Allow you to filter by Career Area and Career Sub-Area. Career areas and sub-areas are based on Bureau of Labor Statistics (BLS) Standard Occupation Codes (SOCs). Career Areas are broader occupational categories. Career Sub-Areas are smaller occupational categories within broader Career Areas. For example, "Architecture and Engineering" is a Career Area and "Architecture," "Civil Engineering," and "Drafting" are Career Sub-Areas. Each Career Sub-Area is associated with more specific career clusters, or roles. For example, "Drafting: Civil Drafting and Design" is a role associated with the "Drafting" career sub-area. For a complete list of the occupations that make up each career sub-area, and the career sub-areas that make up each career area, see the Reference Table dashboard.

CLUSTER FILTERS: Allow you to filter by skill cluster. Clusters are groups of correlated skills found in job postings. For example, within the "Software Development and Programming" Career Sub-Area there are several skill clusters such as "Software Development: Cloud Development" and "Software Development: Java Development."

SKILL FILTERS: Allow you to filter by Skill and Skill Type. Skill types are very broad skill categories; such as business, engineering, and healthcare. For example, the skill Java is part of the IT/Math skill type and the skill Graphic Design is part of the Art skill type.

DASHBOARDS

Regional Overview

DESCRIPTION

Provides data on the top job postings for 2019 and 2020 based on the skills identified in skill clusters; the top skill clusters by labor supply, labor demand, and median salary; and 5-year projections for highest and lowest growth of skill clusters. Data can be filtered by geographical region, career area, career sub-area, and cluster theme.

Skill clusters are represented by cluster themes. Each cluster theme is related to a career sub-area. For example, the cluster theme "Therapy: Speech-Language Pathology" is part of the career sub-area "Therapy." Another example is the cluster theme "Business Analysis: Budgeting and Forecasting," which is part of the career sub-area "Business Analysis/Operations."

DIRECTIONS

First, select one or more geographical areas from the Region Name dropdown menu.

Next, select one or more career areas. This reduces the field to the career area(s) and just the career sub-areas under the selected career area(s).

Next, select one or more career sub-areas. This reduces the field to the career sub-area(s) you are interested in.

Finally, select one or more skill clusters. This reduces the field to the skill cluster(s) you are interested.

RESULTS

The dashboard is divided into three main sections that show the top cluster themes for the selected region(s), career area(s), career sub-area(s), and cluster theme(s).

The first section shows the top cluster themes based on job postings in 2019 and 2020.

The middle section shows the top cluster themes by labor supply, labor demand, and median salary.

The bottom section shows the highest and lowest projected 5-year growth for the top cluster themes.

Cluster Postings

DESCRIPTION

Provides data on job postings for 2019 and 2020 based on the skills identified in skill clusters. In addition, the cluster postings dashboard shows the effects of the COVID-19 pandemic. Data can be filtered by geographical region, career area, career sub-area, and cluster theme.

DIRECTIONS

First, select one or more geographical areas from the Region Name dropdown menu.

Next, select one or more career areas. This reduces the field to the career area(s) and just the career sub-areas under the selected career area(s).

Next, select one or more career sub-areas. This reduces the field to the career sub-area(s) you are interested in.

Next, select one or more skill clusters. This reduces the field to the skill cluster(s) you are interested.

Finally, enter a keyword if you want to search for a particular skill or cluster of skills.

RESULTS

The results pane displays the selected career sub-area(s) and cluster theme(s) along with the number of job postings during 2019 and 2020 that match with the skills in the skills clusters. In addition, the results pane estimates the impact of the COVID-19 pandemic on the number of job postings.

Cluster Demand

DESCRIPTION

Provides estimated supply and demand data for clusters of skills within each career sub-area. Skill clusters are represented by cluster themes and each cluster theme is related to a career sub-area. The dashboard displays the career sub-area, cluster theme, estimated supply and demand, 5-year projected growth, and median salary by geographic area or areas. Filters include geographic regions, career areas and career sub-areas, and cluster themes. You can also filter cluster themes by keyword.

DIRECTIONS

First, select one or more geographical regions from the Select Regions dropdown menu.

Next, select one or more career areas. This reduces the field to the career area(s) and just the career sub-areas under that career area.

Next, select one or more career sub-areas. This reduces the field to the career sub-area(s) you are interested in.

Next, select one or more cluster themes. This displays the cluster theme(s) you are interested in.

Finally, enter a keyword if you want to search for a particular skill or cluster of skills.

RESULTS

The dashboard displays career sub-areas, cluster themes, estimated supply and demand, 5-year job growth projections, and median salaries for one or more geographical regions.

If one or more career areas are selected, only the related career sub-areas will be displayed in the first column on the left with their related cluster themes in the next column to the right. The "Career Sub-Areas" dropdown menu will also be limited to the career sub-areas related to the career area(s) selected.

Selecting one or more career sub-areas will display only the chosen career sub-area(s) and their related cluster themes.

Selecting one or more cluster themes will display only the chosen cluster theme(s).

Filtering by keyword will filter within the selected cluster theme(s). If you are only filtering by keyword, all cluster themes connected to that keyword will be displayed.

Once all the selections have been made, estimated supply and demand, 5-year job growth, and median annual salary are displayed in bar charts by region.

Note: You can aggregate the cluster theme data by selecting the minus sign when you hover over the Career Sub-Area cell in the results pane. You can disaggregate the career sub-area data again by selecting the plus sign.

Skill Demand by Cluster

DESCRIPTION

Provides estimated demand for particular skills within skill clusters. The dashboard displays the skills and the skill clusters they are associated with, and the estimated demand in one or more regions. Skills can be filtered by career area, career sub-area, cluster theme, skill, and skill type. Filters include career area, career sub-area, region, cluster theme, skill, and skill type. You can also filter clusters by keyword.

DIRECTIONS

First, select one or more geographical regions.

Next, select one or more career areas from the dropdown menu. Selecting one or more career areas will limit the career sub-area dropdown menu to the career sub-areas related to the career area(s) selected.

Next, select one or more career sub-areas. Selecting one or more career sub-areas will limit the cluster themes dropdown menu to the cluster themes related to the career sub-area(s) selected.

Next, select one or more cluster themes. This displays the cluster theme(s) you are interested in.

Next, you can enter a keyword if you want to search for a particular skill cluster.

Finally, select one or more skill types. You can also select a particular skill or skills.

RESULTS

The dashboard displays skills, cluster themes, and estimated demand for one or more geographical regions.

When a career area, career sub-area, cluster theme, or skill type is selected, only the related skills will be displayed in the column on the left with the related cluster themes in the column on the right.

Filtering by cluster keyword will display only the cluster themes that include that keyword.

Filtering for a specific skill or skill type will display only the selected skill or skills associated with the skill type.

Once all the selections have been made, estimated demand is displayed in bar charts by region. The bars are color-coded to indicate which skill type the particular skill belongs to.

Skill Demand (Aggregate)

DESCRIPTION

Provides aggregate estimated demand for particular skills arranged by skill type. The dashboard displays the skills, the skill types they are associated with, and the estimated demand in one or more regions. Skills can be filtered by career area, career sub-area, cluster theme, skill, and skill type. Filters include career area, career sub-area, region, cluster theme, skill, and skill type. You can also filter clusters by keyword.

DIRECTIONS

First, select one or more geographical regions.

Next, select one or more career areas from the dropdown menu. Selecting one or more career areas will limit the career sub-area dropdown menu to the career sub-areas related to the career area(s) selected.

Next, select one or more career sub-areas. Selecting one or more career sub-areas will limit the cluster themes dropdown menu to the cluster themes related to the career sub-area(s) selected.

Next, select one or more cluster themes.

Next, you can enter a keyword if you want to search for a particular skill cluster.

Finally, select one or more skill types. You can also select a particular skill or skills.

RESULTS

The dashboard displays skill types, skills, and estimated demand for one or more geographical areas.

When a career area, career sub-area, cluster theme, or skill type is selected, only the related skills will be displayed in the column in the skill column. When multiple skill types are selected, the related skills are displayed according to their skill type. Each skill is associated with a single skill type.

Filtering by cluster keyword will display only the skills related to the cluster themes that include that keyword.

Filtering for a specific skill or skill type will display only the selected skill or skills associated with the skill type.

Once all the selections have been made, estimated demand is displayed in bar charts by region. The estimated demand for each skill is the aggregate demand for that skill across all cluster themes that include that skill. The bars are color-coded to indicate which skill type the particular skill belongs to.

Skill Gaps

DESCRIPTION

Provides estimated skills gaps and skill surpluses for particular skills within cluster themes. The dashboard displays the gap between skill supply and skill demand by skill cluster in one or more regions. Skills can be filtered by career area, career sub-area, cluster theme, and skill type. You can also filter skill clusters by keyword and whether there is a talent gap or talent surplus. Finally, you can filter by the size of the skill gap.

DIRECTIONS

First, select one or more geographical regions.

Next, select one or more career areas from the dropdown menu. Selecting one or more career areas will limit the career sub-area dropdown menu to the career sub-areas related to the career area(s) selected. Selecting one or more career areas will also limit the skills and cluster themes that are displayed in the dashboard.

Next, select one or more career sub-areas. Selecting one or more career-sub-areas will limit the skills and cluster themes that are displayed in the dashboard.

Next, select one or more cluster themes. Selecting one or more cluster themes will limit the skills that are displayed in the dashboard.

Next, you can filter by keyword if you want to search for skill clusters related to a particular skill.

Next, select one or more skill types. This reduces the skill field to the skills related to the skill type(s) selected. [Note: it is not necessary to select a skill type.]

Finally, adjust the skill gaps slider to filter by the size of skill the skill gap.

RESULTS

The results pane displays skills, cluster themes, and estimated skills gaps or skill surpluses for one or more geographical regions.

When a career area, career sub-area, or skill type is selected, only the related skills will be displayed in the column on the left with the related cluster themes in the column on the right.

Filtering by cluster keyword will display only the skills that are related to the skill clusters (not displayed) that include that keyword.

Selecting one or more skill clusters will display only the chosen skill cluster or clusters and their related skills.

Filtering by skill gap or skill surplus will display only the skills for which there are gaps or surpluses.

Once all the selections have been made, estimated skill gaps and skill surpluses are displayed by lines between points indicating skill supply and demand. The points are color-coded to indicate whether the point is the estimated supply or the estimated demand. The size of the estimated gap is shown in the column to the right.

Skill Clusters

DESCRIPTION

Provides scores for the importance of specific skills within skill clusters and job posting data for skill clusters in a single geographic region. The dashboard is divided into three panes. The top pane plots skills vertically by skill importance score and the estimated demand for each skill. The middle pane lists skills hierarchically by skill importance score with horizontal bars representing demand. The bottom pane displays sample job posting data for skill clusters. Results include job posting counts for the top companies, most frequently required/ requested education level, top industries, top occupations, and most common job titles. Filters include geographic region, career area, career sub-area, cluster theme, and skill type. Skill clusters can also be filtered by keyword.

DIRECTIONS

First, select one geographical region.

Next, select one or more career areas from the dropdown menu. Selecting one or more career areas will limit the career sub-area dropdown menu to the career sub-areas related to the career area(s) selected. Selecting one or more career areas will also limit the skill clusters that are displayed in the dashboard to the skill clusters related to the career sub-areas that are related to the career area(s) selected.

Next, select one or more career sub-areas. Selecting one or more career-sub-areas will limit the skill clusters that are displayed in the dashboard.

Next, select one or more cluster themes. Selecting one or more cluster themes will limit the skill clusters that are displayed in the dashboard.

Next, you can filter by keyword if you want to search for skill clusters related to a particular skill or set of skills.

Next, select one or more skill types. [Note: it is not necessary to select a skill type.]

Finally, you can select either the "simple view" or the "gap view." The simple view displays points in the top results pane. The gap view displays symbols representing either a skill gap or skill surplus.

RESULTS

The top results pane displays ranked skills and their estimated demand within skill clusters in a single geographic region. Skills at the top of the pane have a higher importance score within that skill cluster. Skills to the right of the pane have a higher demand. Skills are color-coded by skill type.

The middle results pane has the same information as the top pane displayed in list form with color-coded bars representing estimated demand.

The bottom pane displays metadata for skill clusters that includes companies, education level, industries, occupations, and job titles that appear most frequently in a sample of job postings. Within each skill cluster in the Skill Cluster Metadata sheet, bar charts show the number of job postings for the top companies, education levels, industries, occupations, and job titles related to the skill cluster.

Regional Opportunities

DESCRIPTION

Provides estimated median salary, estimated 5-year growth for skill clusters, skills gaps between estimated supply and estimated demand for specific skills within skill clusters, and job posting metadata for skill clusters in a single geographic region. The dashboard is divided into four panes. The first pane displays median salary and job-growth data for one or more skill clusters. The second pane displays median salary and demand/supply ratios for one or more skill clusters. The third pane displays skills gaps for each skill within a selected skill cluster. The fourth pane displays the job posting metadata for a selected skill cluster that includes the companies, education levels, industries, occupations, and job titles that appear most commonly in a sample of job postings. Filters include geographic region, career area, career sub-area, cluster theme, and skill type. Skill clusters can also be filtered by keyword.

DIRECTIONS

First, select a geographic region.

Next, select one or more career areas from the dropdown menu. Selecting one or more career areas will limit the career sub-area dropdown menu to the career sub-areas related to the career area(s) selected. Selecting one or more career areas will also limit the skill clusters that are displayed in the dashboard to the skill clusters related to the career sub-areas that are related to the career area(s) selected.

Next, select one or more career sub-areas. Selecting one or more career-sub-areas will limit the skill clusters that are displayed in the dashboard.

Next, select one or more cluster themes.

Next, filter skill clusters by keyword to search for skill clusters related to a particular skill or set of skills.

Next, select one or more skill types. [Note: it is not necessary to select a skill type.]

Finally, in order to display the skills gap data and jobs metadata, you need to select one of the skill cluster points in either the first or second results pane.

RESULTS

The top two panes displays the skill clusters related to the selected career area(s) and career sub-area(s). The skill clusters are represented by different size points on along the x- and y-axis.

The bottom two dashboards are unpopulated until you select one of the skill clusters on the graph by clicking on the point.

The middle pane displays the skills related to the selected skill cluster, and the skills gaps or skills surpluses for each skill. The skills gaps and skills surpluses are represented by a line with color-coded points for estimated skill supply and estimated skill demand. The size of the line indicates the size of the skill gap or skill surplus.

The bottom pane displays the job posting metadata for the selected skill cluster. Bar charts show the number of job postings for the top companies, education levels, industries, occupations, and job titles related to the skill cluster from a sample of job posts.