



# Occupation Report

---

# Computer and Information Analysts

Sacramento-Roseville-Folsom, CA MSA

---

A horizontal line with three circular markers: a blue circle on the left, a dark blue circle in the middle, and a grey circle on the right.

Occupation Snapshot ..... 3

Employment by Industry ..... 4

Wages ..... 5

Occupation Demographics ..... 6

Education Profile ..... 7

Postsecondary Programs Linked to Computer and Information Analysts ..... 8

RTI (Job Postings) ..... 9

Top Skill and Certification Gaps ..... 13

Occupation Gaps ..... 14

Geographic Distribution ..... 15

Sacramento-Roseville-Folsom, CA MSA Regional Map ..... 17

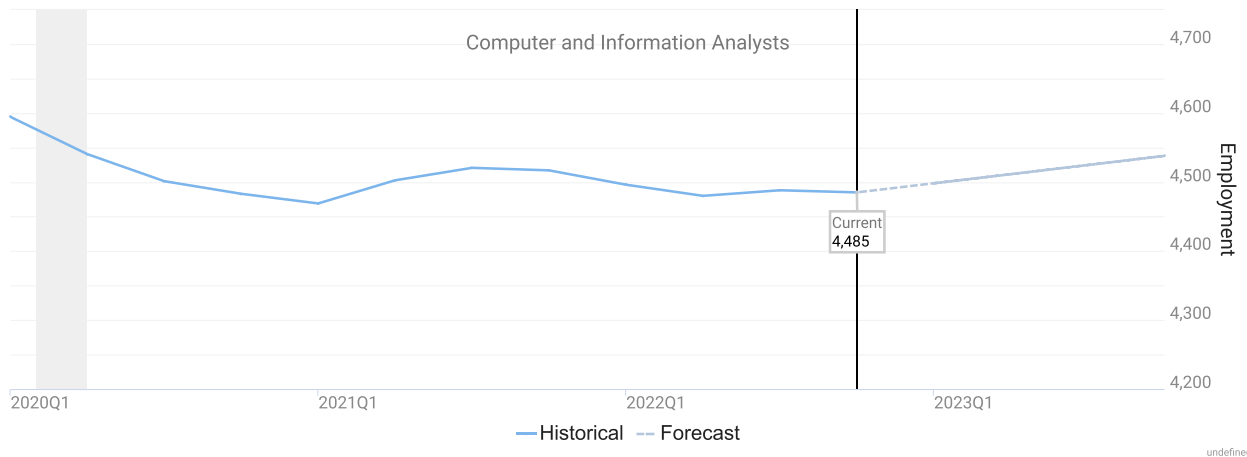
Data Notes ..... 18

Region Definition ..... 19

FAQ ..... 20

# Occupation Snapshot



6-Digit Occupation	Empl	Avg Mean Wages	LQ	3-Year Empl Change	Annual Demand	Forecast Ann Growth
Computer Systems Analysts	3,542	\$110,800	0.92	-179	274	0.6%
Information Security Analysts	943	\$116,600	0.78	57	105	3.1%
<b>Computer and Information Analysts</b>	<b>4,485</b>	<b>\$112,000</b>	<b>0.89</b>	<b>-122</b>	<b>381</b>	<b>1.2%</b>



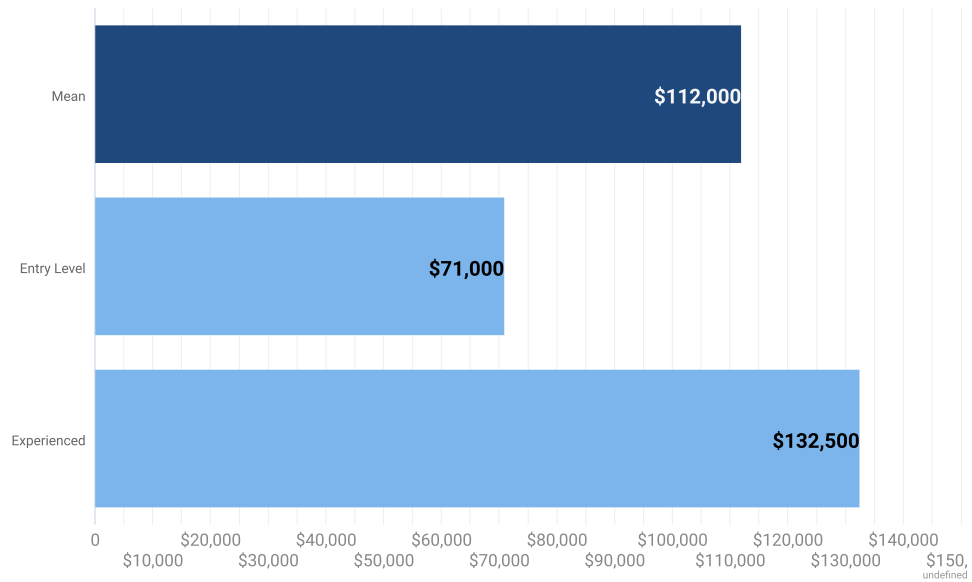
- 💡 “Annual Demand” is the projected need for new entrants into an occupation. New entrants are needed due to expected growth and to replace workers who left the occupation due to factors such as retirement or switching careers.
- 💡 “Forecast Ann Growth” is the expected change in jobs due to national, long-term trend projections (per the BLS) as well as local factors such as industry mix and population growth (as computed and modeled by Chmura).

# Employment by Industry

Industry Title	% of Occ Empl	Empl	10-Year Separations	10-Year Empl Growth	10-Year Total Demand
Computer Systems Design and Related Services	18.4%	825	655	233	888
Management of Companies and Enterprises	7.8%	351	258	36	294
Executive, Legislative, and Other General Government Support	6.4%	289	200	-5	194
Insurance Carriers	5.6%	250	184	26	210
General Medical and Surgical Hospitals	4.0%	181	129	7	136
Management, Scientific, and Technical Consulting Services	4.0%	178	136	35	172
Administration of Human Resource Programs	3.7%	164	113	-4	109
Scientific Research and Development Services	3.3%	150	116	30	146
Employment Services	3.3%	148	109	15	123
Architectural, Engineering, and Related Services	3.3%	148	107	10	116
Justice, Public Order, and Safety Activities	3.2%	144	101	0	101
Administration of Environmental Quality Programs	3.0%	136	94	-4	90
Colleges, Universities, and Professional Schools	2.9%	132	97	15	112
Administration of Economic Programs	2.9%	130	89	-4	85
Depository Credit Intermediation	1.9%	85	65	16	81
Office Administrative Services	1.9%	84	63	14	78
Agencies, Brokerages, and Other Insurance Related Activities	1.7%	78	57	9	66
Accounting, Tax Preparation, Bookkeeping, and Payroll Services	1.7%	74	58	17	75
Natural Gas Distribution	1.3%	59	42	1	42
Computing Infrastructure Providers, Data Processing, Web Hosting, and Related Services	1.3%	58	46	17	64
All Others	18.3%	822	607	95	702

-  The industry distribution indicates the industries in which workers in the occupation(s) are primarily found.
-  “10-Year Empl Growth” may show industries with positive as well as negative growth; this would indicate that the occupation(s) being examined are expected to expand within some industries while contracting in others.

# Wages

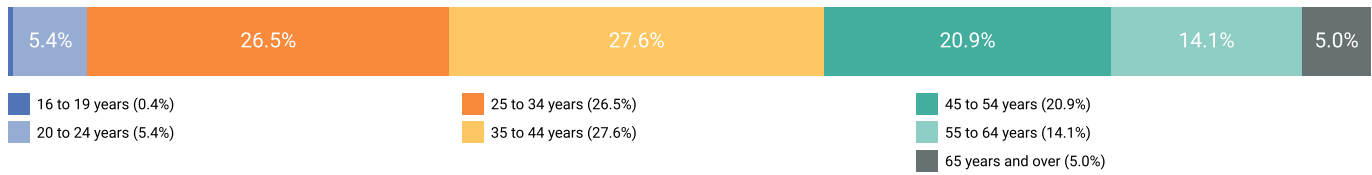


Occupation	Mean	Median	Entry Level	Experienced
Information Security Analysts	\$116,600	\$110,800	\$65,500	\$142,200
Computer Systems Analysts	\$110,800	\$107,800	\$72,200	\$130,100

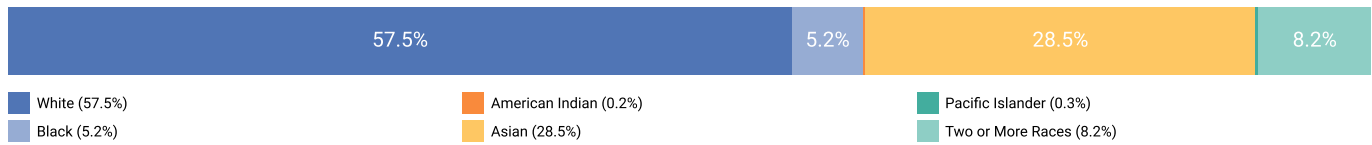
- 💡 Occupation wages here utilize BLS OEWS data, imputed and brought forward by Chmura.
- 💡 When this report is run for an occupation group, the table above displays up to the top ten detailed occupations which have the highest average wages within the occupation group.

# Occupation Demographics

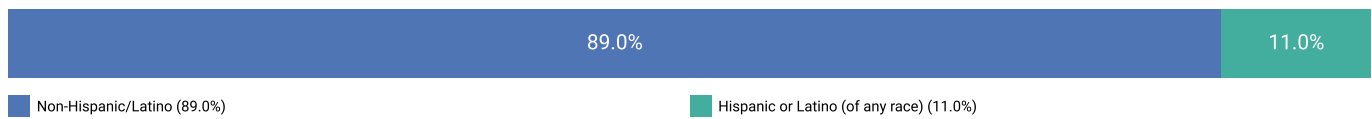
## Age



## Race



## Ethnicity



## Gender

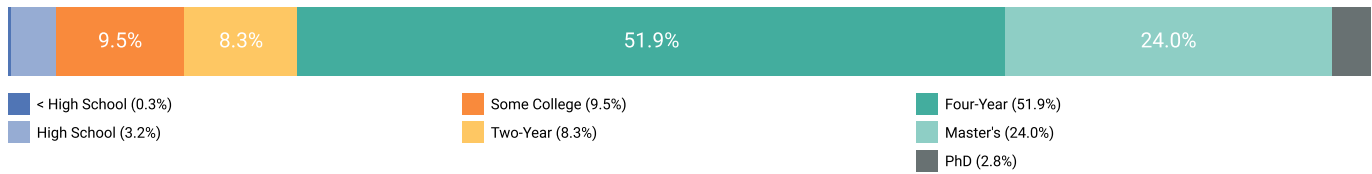


## Education and Training Requirements



# Education Profile

## Educational Attainment



Occupation	Typical Entry-Level Education	Previous Work Experience	Typical On-the-Job Training
Computer Systems Analysts	Bachelor's degree	None	None
Information Security Analysts	Bachelor's degree	Less than 5 years	None


 The stacked bar chart here illustrates the estimated mix of educational attainment of the workers in this occupation(s) in aggregate.

 The table indicates typical education and training requirements rather than the mix of attainment of workers in such positions.

# Postsecondary Programs Linked to Computer and Information Analysts

Program	Awards
<b>American River College</b>	
Computer Systems Networking and Telecommunications	23
<b>Asher College</b>	
Computer and Information Systems Security/Auditing/Information Assurance	101
<b>California State University-Sacramento</b>	
Computer Science	310
<b>Cosumnes River College</b>	
Computer and Information Sciences, General	18
Computer Systems Networking and Telecommunications	7
Information Technology	9
<b>Sacramento City College</b>	
Computer Systems Networking and Telecommunications	34
Information Technology	13
<b>Sierra College</b>	
Computer Systems Networking and Telecommunications	40
<b>University of California-Davis</b>	
Computer Science	444

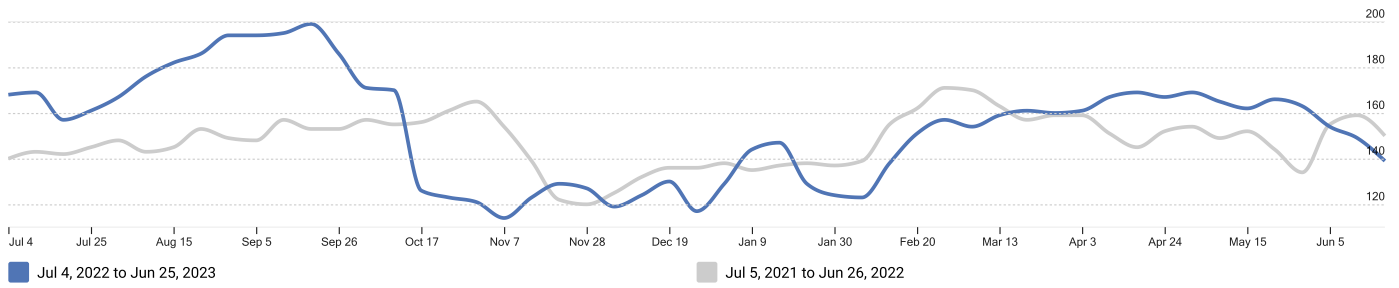
 The number of graduates from postsecondary programs in the region identifies the pipeline of future workers as well as the training capacity to support industry demand.

 Among postsecondary programs at schools located in the Sacramento-Roseville-Folsom, CA MSA, the sampling above identifies those most linked to Computer and Information Analysts. For a complete list see JobsEQ®, <http://www.chmuraecon.com/jobseq>



# RTI (Job Postings)

Active Job Ads by Date



Online job ads are a timely indicator of local demand. Occupation assignments shown below are made by Chmura based upon analysis of job titles and job descriptions. Top employers and listed job requirements are shown on the following pages.

## Occupations

SOC	Occupation	Active Job Ads
15- 1211.00	Computer Systems Analysts	711
15- 1212.00	Information Security Analysts	408
15- 1211.01	Health Informatics Specialists	48

### Locations

Location	Active Job Ads	
Sacramento, California	391	
University of California Davis	86	
Sacramento, CA 94203	40	
Folsom, California	34	
Sacramento, CA 95811	28	
Rancho Cordova, California	25	
Roseville, California	23	
Davis, California	21	
Sacramento, CA 95814	20	
El Dorado Hills, CA 95762	19	

### Employers

Employer Name	Active Job Ads	
Sacramento, California	82	
Experis	37	
Golden 1 Credit Union	27	
Deloitte	23	
Sutter Health	23	
Davis, California	22	
UC Davis Health	21	
Target	20	
Agile Global Solutions, Inc	15	
Oracle	15	

### Hard Skills

Skill Name	Active Job Ads	
Information Security	326	
Structured Query Language (SQL)	198	
Computer Programming/Coding	169	
Microsoft Excel	158	
Agile	135	
Microsoft Office	116	
Microsoft Azure	107	
Change Management	104	
Linux	100	
SAP	100	

### Job Titles

Job Title	Active Job Ads	
Business Systems Analyst	28	
Information Security Analyst	19	
Security Specialist	18	
Systems Analyst	14	
Senior Business Systems Analyst	9	
Application Analyst	8	
Security Engineer	8	
Business Systems Analyst 3	7	
Senior Information Security Auditor	7	
Supervisor Revenue Cycle	7	

### Education Levels

Minimum Education Level	Active Job Ads	
Bachelor's degree	581	
Associate's degree	80	
High school diploma or equivalent	37	
Master's degree	23	
Doctoral or professional degree	6	
Unspecified/other	440	

### Programs

Program Name	Active Job Ads	
Computer Science	266	
Information Technology	106	
Engineering	70	
Information Systems	61	
Business	58	
Business Administration	52	
Management Information Systems	48	
Accounting	44	
Computer Engineering	31	
Management	27	

# Top Skill and Certification Gaps

Top 10 Skill Gaps in Sacramento-Roseville-Folsom, CA MSA

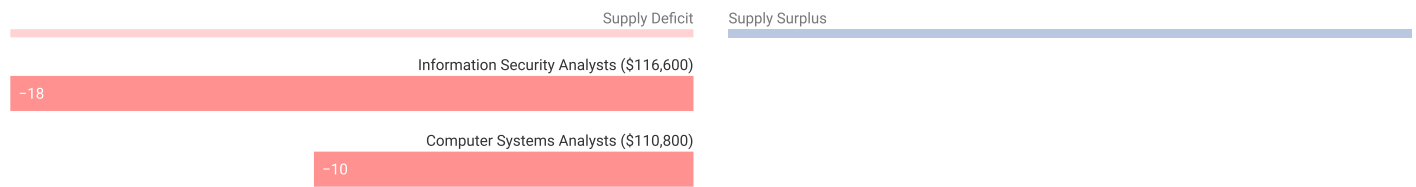
Name	Candidates	Openings	Gap
Personal Computers (PC)	11	18	-7
Agile	41	48	-7
Linux	22	28	-6
Information Security	72	77	-5
Field Programmable Gate Array (FPGA)	0	6	-5
Domain Name System (DNS)	3	9	-5
Root Cause Analysis	3	8	-5
Word Processing	11	16	-5
Oracle PeopleSoft	3	8	-5
Microsoft Azure	10	16	-5

Top 10 Certification Gaps in Sacramento-Roseville-Folsom, CA MSA

Name	Candidates	Openings	Gap
Certified Information Systems Auditor (CISA)	8	14	-5
Certified Business Analysis Professional (CBAP)	3	7	-4
CompTIA Advanced Security Practitioner (CASP)	0	3	-3
Certification in Risk and Information Systems Control (CRISC)	3	5	-2
GIAC Security Leadership Certification (GSLC)	0	2	-2
Basic Life Support (BLS)	0	2	-2
Cisco Certified Network Associate (CCNA)	4	5	-1
Certified Security Software Lifecycle Professional (CSSLP)	0	1	-1
Microsoft Certified Solutions Associate (MCSA)	1	2	-1
GIAC Security Essentials Certification (GSEC)	4	6	-1

 Skill and certifications gaps can help inform employee development programs, as well as provide a comparison of the needs of regional employers to the supply.

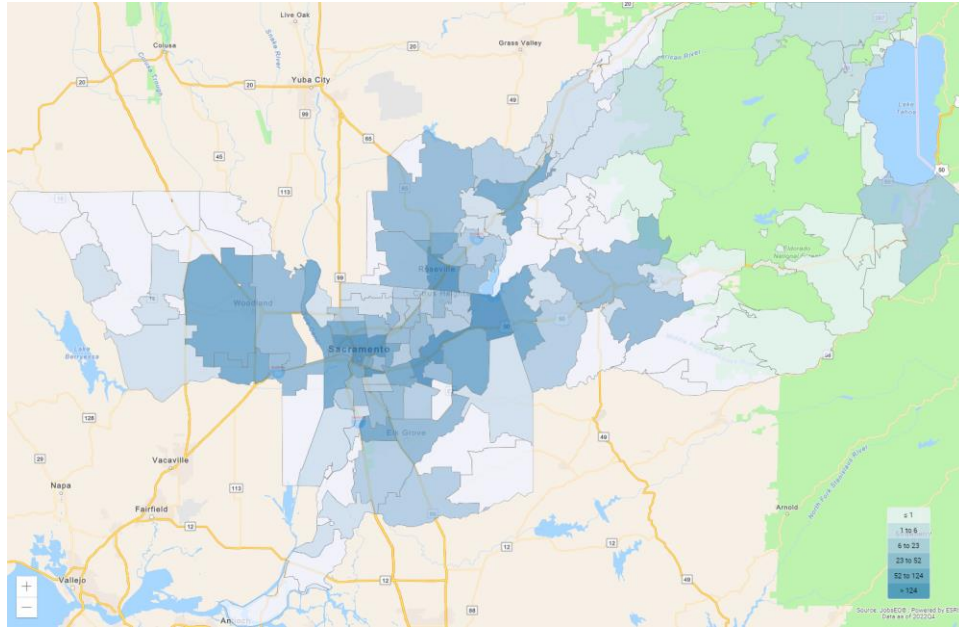
# Occupation Gaps



💡 The above are the potential average annual gaps over 10 years. Many variables go into this analysis, but at its core it is based on a forecast comparing occupation demand growth to the local population growth and the projected educational attainment of those residents. When an area, for example, has an occupation expected to grow quickly but the educational requirement for the occupation does not match well with the educational attainment of its residents, there is a high potential for an occupation shortfall in the region. Alternatively, slow-growing or contracting occupations often represent potential supply surpluses.

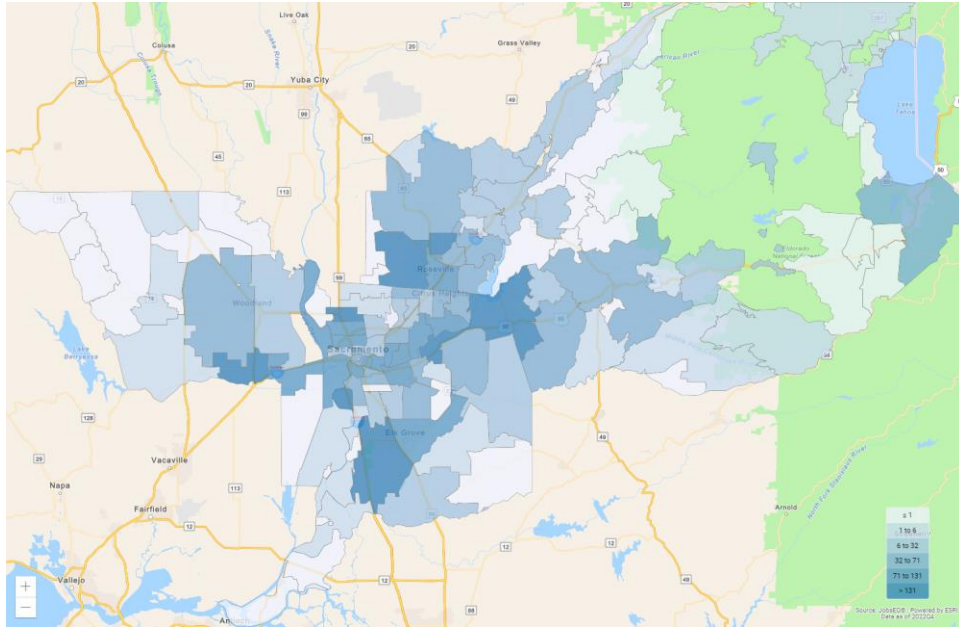
💡 The potential supply shortfall is an underlying force that the market needs to resolve one way or another, such as by employers recruiting from further distances for these occupations, wages going up to attract more candidates, and/or increased demand and wages enticing more local residents to get training for these occupations. While this an important analysis for determining local occupation needs, the occupation gap should be considered along with other regional data including growth and separation forecasts, unemployment rates, wage trends, and award and skill gap analyses.

# Geographic Distribution



**Top ZCTAs by Place of Work for Computer and Information Analysts, 2022Q4**

Region	Employment
ZCTA 95814	651
ZCTA 95630	427
ZCTA 95670	381
ZCTA 95661	157
ZCTA 95678	151
ZCTA 95817	147
ZCTA 95827	142
ZCTA 95811	132
ZCTA 95815	125
ZCTA 95833	124



**Top ZCTAs by Place of Residence for Computer and Information Analysts, 2022Q4**

Region	Employment
ZCTA 95630	329
ZCTA 95747	224
ZCTA 95616	203
ZCTA 95831	168
ZCTA 95758	153
ZCTA 95757	150
ZCTA 95835	144
ZCTA 95762	139
ZCTA 95765	136
ZCTA 95670	131

💡 “Place of work” employment is based upon the location of employers for these workers. “Place of residence” data refers to the home locations of the workforce, which is typically the preferred data set to use when calculating labor availability within a drive-time or radius of a potential worksite.



# Sacramento-Roseville-Folsom, CA MSA Regional Map



# Data Notes

- Occupation employment by default indicates employment by place of work. Occupation employment is as of 2022Q4 and is based on industry employment and local staffing patterns calculated by Chmura and utilizing BLS OEWS data. Employment forecasts are modeled by Chmura and are consistent with BLS national-level 10-year forecasts. Wages by occupation are as of 2022Q4, utilizing BLS OEWS data, imputed and brought forward by Chmura. Entry-level and experienced wages are derived from these source data, computed by Chmura.
- Industry employment is as of 2022Q4 and is based upon BLS QCEW data, imputed by Chmura where necessary, and supplemented by additional sources including Census ZBP data.
- Education and training requirements are from the BLS. Educational attainment mix and other occupation demographics data are modeled by Chmura for 2022Q4 using regional occupation employment from JobsEQ, ZCTA-level demographics data from the Census Bureau, and national occupation-demographics patterns from the BLS.
- Postsecondary awards are per the NCES and are for the 2020-2021 academic year. Any programs shown are linked with the occupation(s) being analyzed via the program-occupation crosswalk, which may not be comprehensive. Any programs shown reflect only data reported to the NCES; reporting is required of all Title IV schools. Training providers that do not report data to the NCES are not reflected.
- Job ads data are online job posts from the Real-Time Intelligence (RTI) data set, produced wholly by Chmura and gleaned from over 40,000 websites. Data reflect ads active during the last twelve month period ending 06/29/2023 and advertised for any Zip Code Tabulation Area in or intersecting with the region for which this report was produced. Historical ad volume is revised as additional data are made available and processed. Since many extraneous factors can affect short-term volume of online job postings, time-series data can be volatile and should be used with caution. All ad counts represent deduplicated figures.
- For skill and certification gaps, openings and candidates are based upon regional occupation demand (growth plus separations) and the percent of skill demand and supply. Skill demand mix data are per a one-year sample of RTI data; skill supply data are estimated using a five-year sample of resumes data; both data sets compiled as of August 2021. Data may be based, at least in part, on data from broader geographies; see the Skill Gaps analytic export for more details.
- Occupation gaps are modeled by Chmura, indicating long-term potential supply and demand mismatches in a region due, in part, to job demand and labor pool dynamics, including educational attainment and projected growth.
- Occupation employment by place of residence is as of 2022Q4 and modeled by Chmura based upon occupation employment by place of work and commuting patterns. Commuting patterns are derived from source data from the Census Bureau, occupation-specific commuting tendencies, and updated to reflect more recent population and employment estimates.
- Figures may not sum due to rounding.

# Region Definition

**Sacramento-Roseville-Folsom, CA MSA is defined as the following counties:**

El Dorado County, California

---

Placer County, California

---

Sacramento County, California

---

Yolo County, California

---

# FAQ

## What is (LQ) location quotient?

Location quotient is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an industry (or occupation) as the nation. An LQ of 2.00 would mean the region has twice the expected employment compared to the nation and an LQ of 0.50 would mean the region has half the expected employment in comparison to the nation.

## What is annual demand?

Annual demand is a of the sum of the annual projected growth demand and separation demand. Separation demand is the number of jobs required due to separations—labor force exits (including retirements) and turnover resulting from workers moving from one occupation into another. Note that separation demand does not include all turnover—it does not include when workers stay in the same occupation but switch employers. Growth demand is the increase or decrease of jobs expected due to expansion or contraction of the overall number of jobs.