

# Computer and Information Science Occupation Overview

Emsi Q2 2016 Data Set

July 2016

College of San Mateo



3401 CSM Drive  
San Mateo, California 94402  
650.358.6880

# Parameters

## Occupations

12 items selected. See Appendix A for details.

## Regions

Code	Description
6001	Alameda County, CA
6013	Contra Costa County, CA
6075	San Francisco County, CA
6081	San Mateo County, CA
6085	Santa Clara County, CA

## Timeframe

2014 - 2021

## Datarun

2016.2 - QCEW Employees

## CIS CTE in 5 Counties

### Occupation Summary for CIS CTE

<p><b>250,959</b></p> <p>Jobs (2016)</p> <p>189% <b>above</b> National average</p>	<p><b>+29.2%</b></p> <p>% Change (2014-2021)</p> <p>Nation: <b>+15.6%</b></p>	<p><b>\$54.04/hr</b></p> <p>Median Hourly Earnings</p> <p>Nation: \$39.19/hr</p>
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## Growth

218,331

2014 Jobs

282,167

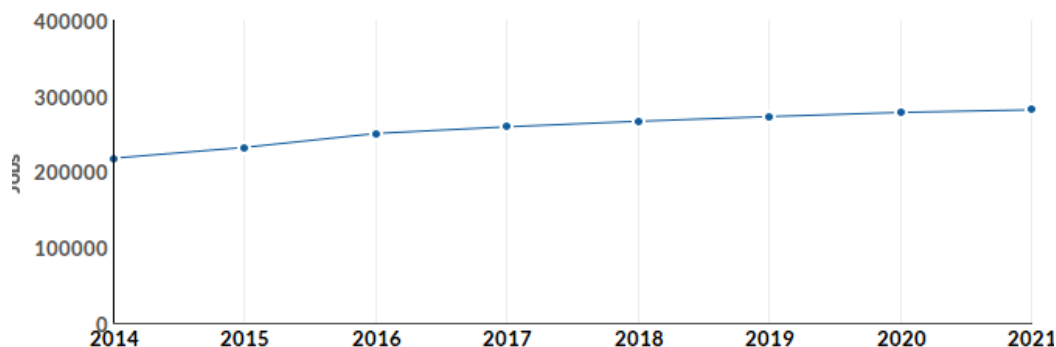
2021 Jobs

63,836

Change (2014-2021)

29.2%

% Change (2014-2021)



Occupation	2014 Jobs	2021 Jobs	Change	% Change
Computer Systems Analysts (15-1121)	27,826	37,363	9,537	34%
Information Security Analysts (15-1122)	2,920	4,053	1,133	39%
Computer Programmers (15-1131)	15,140	17,295	2,155	14%
Software Developers, Applications (15-1132)	58,649	79,230	20,581	35%
Software Developers, Systems Software (15-1133)	42,882	52,546	9,664	23%
Web Developers (15-1134)	6,977	10,312	3,335	48%
Database Administrators (15-1141)	3,831	5,052	1,221	32%
Network and Computer Systems Administrators (15-1142)	14,378	17,998	3,620	25%
Computer Network Architects (15-1143)	6,096	7,814	1,718	28%
Computer User Support Specialists (15-1151)	18,173	24,865	6,692	37%
Computer Network Support Specialists (15-1152)	6,874	8,771	1,897	28%
Computer Hardware Engineers (17-2061)	14,585	16,867	2,282	16%

## Percentile Earnings

**\$42.85/hr**

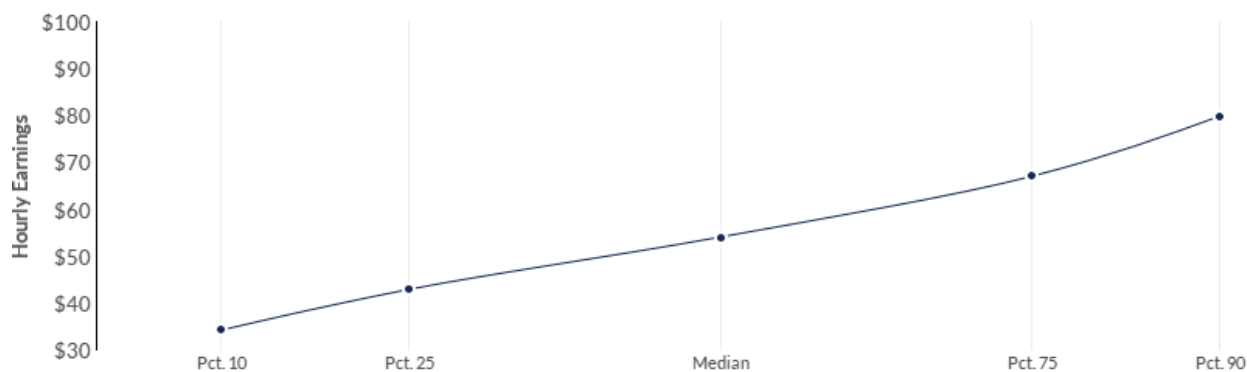
25th Percentile Earnings

**\$54.04/hr**

Median Earnings

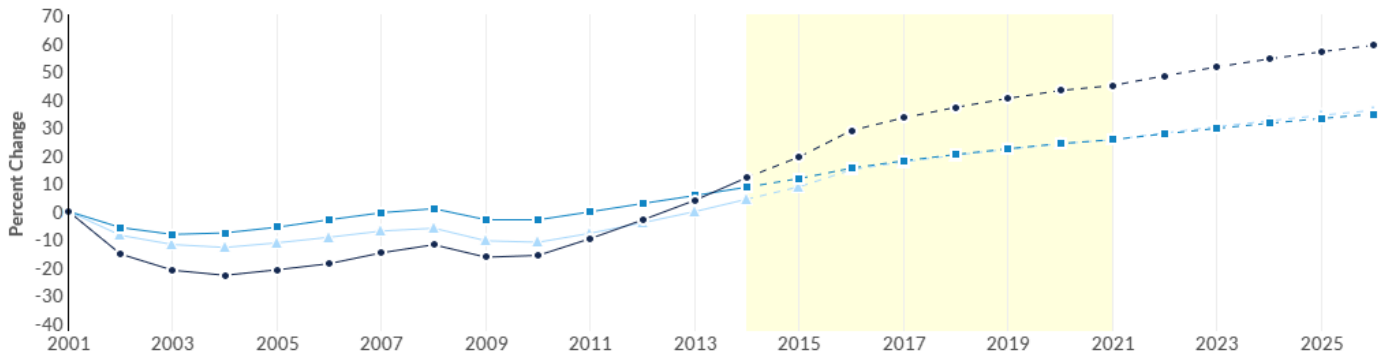
**\$67.02/hr**

75th Percentile Earnings



Occupation	25th Percentile Earnings	Median Earnings	75th Percentile Earnings
Computer Systems Analysts (15-1121)	\$38.31	\$48.67	\$60.99
Information Security Analysts (15-1122)	\$44.09	\$54.12	\$64.53
Computer Programmers (15-1131)	\$33.01	\$43.78	\$58.49
Software Developers, Applications (15-1132)	\$48.81	\$61.51	\$75.53
Software Developers, Systems Software (15-1133)	\$50.39	\$61.80	\$76.18
Web Developers (15-1134)	\$33.50	\$45.34	\$59.91
Database Administrators (15-1141)	\$36.13	\$49.66	\$62.75
Network and Computer Systems Administrators (15-1142)	\$37.05	\$46.83	\$57.60
Computer Network Architects (15-1143)	\$51.42	\$62.82	\$74.79
Computer User Support Specialists (15-1151)	\$24.23	\$32.22	\$42.53
Computer Network Support Specialists (15-1152)	\$31.72	\$40.72	\$51.48
Computer Hardware Engineers (17-2061)	\$52.12	\$64.20	\$75.23

## Regional Trends



Region	2014 Jobs	2021 Jobs	Change	% Change
● Region	218,331	282,167	63,836	29.2%
■ Nation	3,565,300	4,119,929	554,629	15.6%
▲ California	505,021	607,339	102,318	20.3%

## Regional Breakdown



County	2021 Jobs
Santa Clara County, CA	140,480
San Francisco County, CA	61,822
Alameda County, CA	37,184
San Mateo County, CA	31,597
Contra Costa County, CA	11,084

## Job Postings Summary

31,699

Unique Postings (May 2016)  
136,130 Total Postings

4 : 1

Posting Intensity (May 2016)

Regional Average: 5 : 1

There were 136,130 total job postings for 12 *Occupations* in May 2016, of which 31,699 were unique. These numbers give us a Posting Intensity of 4-to-1, meaning that for every 4 postings there is 1 unique job posting.

This is close to the Posting Intensity for all other occupations and companies in the region (5-to-1), indicating they are putting average effort toward hiring this position.

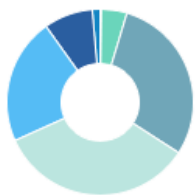
## Occupation Gender Breakdown



Gender	2016 Jobs	2016 Percent
● Males	192,423	76.7%
● Females	58,536	23.3%

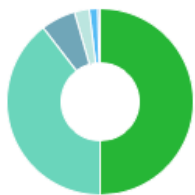


## Occupation Age Breakdown



Age	2016 Jobs	2016 Percent
14-18	556	0.2%
19-24	11,097	4.4%
25-34	73,973	29.5%
35-44	85,654	34.1%
45-54	54,965	21.9%
55-64	21,317	8.5%
65+	3,397	1.4%

## Occupation Race/Ethnicity Breakdown



Race/Ethnicity	2016 Jobs	2016 Percent
Asian	125,459	50.0%
White	99,273	39.6%
Hispanic or Latino	15,024	6.0%
Black or African American	6,459	2.6%
Two or More Races	3,625	1.4%
Native Hawaiian or Other Pacific Islander	718	0.3%
American Indian or Alaska Native	400	0.2%

## Occupational Programs

<b>21</b> Programs (2014)	<b>3,274</b> Completions (2014)	<b>18,187</b> Openings (2014)
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CIP Code	Program	Completions (2014)
11.0701	Computer Science	1,129
14.0903	Computer Software Engineering	446
11.0201	Computer Programming/Programmer, General	386
14.0901	Computer Engineering, General	273
11.0901	Computer Systems Networking and Telecommunications	264

## Industries Employing CIS CTE

Industry	Occupation Group Jobs in Industry (2016)	% of Occupation Group in Industry (2016)	% of Total Jobs in Industry (2016)
Custom Computer Programming Services	55,527	22.1%	56.6%
Computer Systems Design Services	33,301	13.3%	57.5%
Electronic Computer Manufacturing	23,489	9.4%	44.3%
Internet Publishing and Broadcasting and Web Search Portals	23,259	9.3%	34.3%
Software Publishers	19,107	7.6%	50.6%

# Appendix A - Occupations

Code	Description
15-1121	Computer Systems Analysts
15-1122	Information Security Analysts
15-1131	Computer Programmers
15-1132	Software Developers, Applications
15-1133	Software Developers, Systems Software
15-1134	Web Developers
15-1141	Database Administrators
15-1142	Network and Computer Systems Administrators
15-1143	Computer Network Architects
15-1151	Computer User Support Specialists
15-1152	Computer Network Support Specialists
17-2061	Computer Hardware Engineers

# Appendix B - Data Sources and Calculations

## Location Quotient

Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region unique in comparison to the national average.

## Occupation Data

Emsi occupation employment data are based on final Emsi industry data and final Emsi staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level Emsi earnings by industry.

## Completers Data

The completers data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

## Institution Data

The institution data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

## State Data Sources

This report uses state data from the following agencies: California Labor Market Information Department