

⚠️ Endorsed: Caution Advised			
Program LMI Endorsement Criteria			
	Met <input checked="" type="checkbox"/>	Partially Met <input type="checkbox"/>	Not Met <input type="checkbox"/>
Supply Gap:	There are projected to be 829 annual job openings throughout Los Angeles and Orange counties for these AI-related occupations, which is more than the 379 awards conferred by educational institutions.		
Self-Sufficiency Standard Living Wage ¹ :	Met <input checked="" type="checkbox"/>	Partially Met <input type="checkbox"/>	Not Met <input type="checkbox"/>
	The majority (72%) of annual job openings for these AI-related occupations have entry-level hourly wages above the OC living wage of \$27.13.		
Education:	Met <input type="checkbox"/>	Partially Met <input checked="" type="checkbox"/>	Not Met <input type="checkbox"/>
	Although these middle-skill AI-related occupations typically require a bachelor's degree, between 21% and 25% of workers in the field have completed some college or an associate degree as their highest level of education.		

Summary

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report to determine whether there is a supply gap in the Los Angeles and Orange counties regional labor market related to two occupations:

- Middle-Skill
 - *Web Developers (15-1254)*
 - *Web and Digital Interface Designers (15-1255)*

Based on the available data, there appears to be a supply gap for these AI-related occupations, and the majority of annual job openings have entry-level wages above the Self-Sufficiency Standard living wage. However, typical education requirements for these occupations exceed the scope of a community college education. **Therefore, due to some of the regional labor market criteria being met, the COE endorses this proposed program.**

¹ The living wage endorsement criteria in this report uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard, which the COE refers to as a living wage; Orange County's living wage of \$27.13, was last updated in March 2024.

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the middle-skill AI-related occupations included in this report.

Exhibit 1: Labor Market Endorsement Summary

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Web Developers (15-1254)	LA: 159 OC: 57 TTL: 216	<i>Accounted for Below</i>	OC: \$26.06	Bachelor's degree	25%
Web and Digital Interface Designers (15-1255)	LA: 465 OC: 148 TTL: 613	LA: 156 OC: 224 TTL: 379	OC: \$31.65	Bachelor's degree	21%
Total	829	379	N/A	N/A	N/A

Demand

- In Los Angeles and Orange counties, the number of jobs related to these occupations is projected to remain flat through 2029, equating to 829 annual job openings.
- Hourly entry-level wages for these occupations range from \$26.06 to \$31.65 in Orange County; 72% of annual openings have entry-level wages above the Self-Sufficiency Standard living wage.
- There were 3,844 online job postings for these occupations over the past 12 months. The highest number of postings were for UI/UX designers, UX designers, and product designers.
- The typical entry-level education for these occupations is a bachelor's degree.
- Between 21% and 25% of workers in the field have completed some college or an associate degree as their highest level of educational attainment.

Supply

- Between 2021 to 2024, an average of 351 awards conferred by 24 community colleges for the middle-skill occupation in Los Angeles and Orange counties.
- From 2020 to 2023, non-community college institutions conferred an average of 28 awards for the middle-skill occupation.
- In the 2022-23 academic year, Orange County community college students that exited computer software development programs had a median annual wage of \$50,096 (\$24.08 per hour) post-exit, and 43% attained the regional living wage.

- In 2021-22, 67% of Orange County computer software development students that exited their programs reported working a job closely related to their field of study.

Demand

Occupational Projections

Exhibit 2 shows the annual percentage change in jobs for these AI-related occupations from 2019 through 2029. Between 2019 and 2020, employment levels across Los Angeles and Orange counties declined sharply due to the broader economic impacts of the COVID-19 pandemic. From 2021 to 2023, Orange County saw growth, followed by a decline in 2024. Beginning in 2025, job levels are projected to grow at a slower rate than all occupations through 2029.

Exhibit 2: Annual Percentage Change in Jobs for AI-related occupations, 2019-2029

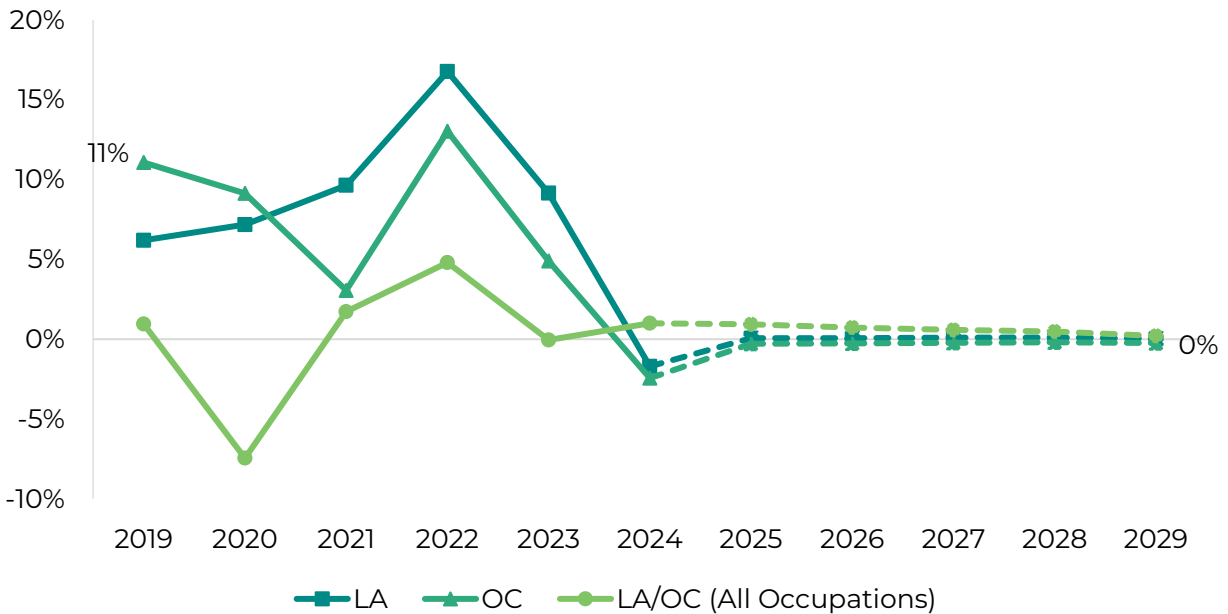


Exhibit 3 shows the five-year occupational demand projections for these middle-skill AI-related occupations. In Los Angeles and Orange counties, the number of jobs for these occupations is projected to remain flat through 2029. There is projected to be 829 available annually.

Exhibit 3: Middle-Skill Occupational Demand in Los Angeles and Orange Counties²

Geography	2024 Jobs	2029 Jobs	2024-2029 Change	2024-2029 % Change	Annual Openings
Los Angeles	9,475	9,511	36	0%	624
Orange	3,221	3,182	(38)	(1%)	205
Total	12,696	12,693	(3)	0%	829

² Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

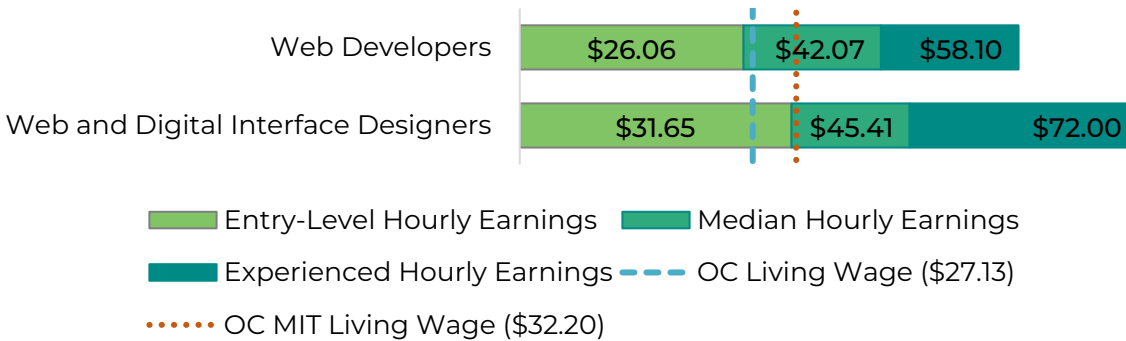
Wages

The labor market endorsement in this report considers the entry-level hourly wages for these AI-related occupations in Orange County as they relate to the county's living wage. Los Angeles County wages are included below to provide a complete analysis of the LA/OC region.

In addition to the Self Sufficiency Standard living wage, data for the MIT Living Wage (updated on February 10, 2025) is provided as a reference. Currently, the MIT Living Wage in Orange County is \$32.20. Both figures account for geographic-specific costs of necessities such as housing, food, health care, and transportation to assess the cost of living, and are notated in the exhibits below.

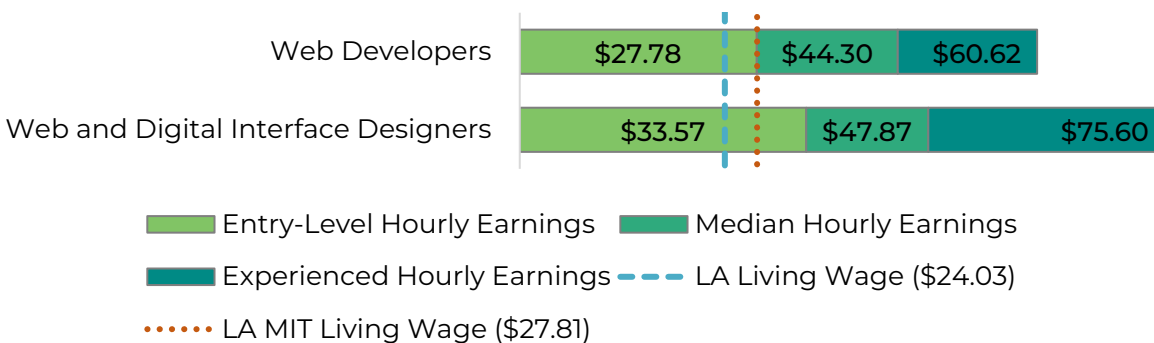
In Orange County, 72% of annual openings for these occupations have entry-level wages above the Self-Sufficiency living wage of \$27.13 for a single adult, ranging from \$26.06 and \$31.65. Exhibit 4 shows the wage range for each of these occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 4: Wages by Occupation in Orange County



In Los Angeles County, all annual openings for these occupations have entry-level wages above the Self-Sufficiency living wage of \$24.03 for a single adult, ranging from \$27.78 and \$33.57. Exhibit 5 shows the wage range for each of these occupations in Los Angeles County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 5: Wages by Occupation in Los Angeles County



Resilient Jobs and U.S. News & World Report Best Jobs

Exhibit 6 shows if each occupation is considered an Orange County Great Recession-Resilient, COVID-19 Pandemic Recession-Resilient Job, or a 2025 U.S. News & World Report (USN&WR) Best Job³. *Web developers* was designated a 2025 USN&WR Best Job, while *web and digital interface designers* did not meet the criteria for any of these designations.

Exhibit 6: Resilient Jobs and USN&WR Best Jobs Designations

Occupation	Great Recession-Resilient Job	COVID-19 Pandemic Recession-Resilient Job	2025 USN&WR Best Job
Web Developers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Web and Digital Interface Designers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Job Postings

Important Job Postings Data Note: *There are limitations when analyzing job postings. A single job posting may not represent a single job opening for a variety of reasons.*

This section provides two job posting analyses to provide a comprehensive assessment of regional demand for the proposed program. The first examines all job postings for the middle-skill AI-related occupations. The second filters all job postings by program-related keywords, such as AI integration in web development, game design, and data system management.

Please note, job postings do not equate to labor market demand, rather they provide insights for program development, such as which employers are hiring and the skills they look for from candidates.

Job Postings for Middle-Skill Occupations

There were 3,844 online job postings related to these occupations listed in the past 12 months. Exhibit 7 shows the number of job postings by occupation. Over 72% of job postings were for *web and digital interface designers*, while 28% were for *web developers*.

Exhibit 7: Number of Job Postings by Occupation (n=3,844)

Occupation	Job Postings	Percentage of Job Postings
Web and Digital Interface Designers	2,780	72%
Web Developers	1,064	28%
Total Postings	3,844	100%

³ "100 Best Jobs," U.S. News & World Report, accessed January 28, 2025, <https://money.usnews.com/careers/best-jobs/rankings/the-100-best-jobs>.

The top job titles for these middle-skill AI-related occupations in the region, by number of job postings, are shown in Exhibit 8.

Exhibit 8: Top Job Titles by Number of Job Postings for Middle-Skill Occupation (n=3,844)

Job Titles	Job Postings	Percentage
UI/UX Designers	184	5%
UX Designers	142	4%
Product Designers	112	3%
Back End Engineers	104	3%
Web Developers	93	2%
Front End Developers	92	2%
User Experience Designers	80	2%
Game Masters	79	2%
UX Researchers	72	2%
Game Designers	69	2%

The top employers for these middle-skill AI-related occupations in the region, by number of job postings, are shown in Exhibit 9.

Exhibit 9: Top Employers by Number of Job Postings for Middle-Skill Occupation (n=3,844)

Employer	Job Postings	Percentage of Job Postings
Amazon	139	4%
Riot Games	102	3%
Canteen Vending	99	3%
Google	80	2%
Disney	71	2%
Robert Half	65	2%
Yotta Games (友塔游戏)	56	1%
Insight Global	56	1%
DataAnnotation	48	1%
Motion Recruitment	47	1%

The top specialized, soft, and computer skills for these middle-skill AI-related occupations listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 10.

Exhibit 10: Top Skills by Number of Job Postings for Middle-Skill Occupation (n=3,844)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
User Experience (UX) (1,557)	Communication (1,667)	Figma (Design Software) (882)
User Interface (UI) (974)	Research (993)	JavaScript (Programming Language) (836)

User Experience (UX) Design (903)	Problem Solving (684)	Cascading Style Sheets (CSS) (766)
Figma (Design Software) (882)	Innovation (642)	HyperText Markup Language (HTML) (656)
Prototyping (881)	Leadership (602)	Application Programming Interface (API) (585)
JavaScript (Programming Language) (836)	Detail Oriented (503)	React.js (Javascript Library) (533)
Cascading Style Sheets (CSS) (766)	Management (398)	Adobe Photoshop (340)
Product Design (665)	Troubleshooting (Problem Solving) (395)	Amazon Web Services (339)
Workflow Management (660)	Customer Service (381)	Git (Version Control System) (317)
HyperText Markup Language (HTML) (656)	Presentations (369)	RESTful API (295)

Job Postings for Program-Related Keywords

There were 3,317 online job postings with program-related keywords (i.e. AI integration in web development, game design, and data system management). The top occupations for these program-related keywords in the region, by number of job postings, are shown in Exhibit 11. Of these, six were above middle-skill (^) and four were middle-skill.

Exhibit 11: Top Occupations by Number of Job Postings for Program-Related Keywords (n=3,317)

Occupation	Job Postings	Percentage
Marketing Managers (11-2021)^	285	8%
Market Research Analysts and Marketing Specialists (13-1161)^	215	6%
Web and Digital Interface Designers (15-1255)	151	4%
General and Operations Managers (11-1021)	100	3%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012)	91	2%
Executive Secretaries and Executive Administrative Assistants (43-6011)	83	2%
Project Management Specialists (13-1082)^	77	2%
Art Directors (27-1011)^	71	2%
Financial Managers (11-3031)^	70	2%
Writers and Authors (27-3043)^	62	2%

The top job titles for program-related keywords in the region, by number of job postings, are shown in Exhibit 12.

Exhibit 12: Top Job Titles by Number of Job Postings for Program-Related Keywords (n=3,317)

Job Title	Job Postings	Percentage
Executive Assistants	50	2%
Account Executives	24	1%
Graphic Designers	23	1%
Project Managers	19	1%
Marketing Managers	18	1%
Growth Marketing Managers	17	1%
Digital Marketing Specialists	17	1%
Retail Sales Associates	16	0%
AI Trainers	15	0%
Product Managers	15	0%

The top employers for program-related keywords in the region, by number of job postings, are shown in Exhibit 13.

Exhibit 13: Top Employers by Number of Job Postings for Program-Related Keywords (n=3,317)

Employer	Job Postings	Percentage of Job Postings
CBRE	53	2%
DataAnnotation	46	1%
Amazon	45	1%
GoPuff	40	1%
ICF International	38	1%
Google	33	1%
Accenture	30	1%
Myplace Health	28	1%
Xplor International	28	1%
Csc Generation	28	1%

The top specialized, soft, and computer skills for program-related keywords listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 14.

Exhibit 14: Top Skills by Number of Job Postings for Program-Related Keywords (n=3,317)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Artificial Intelligence (3,183)	Communication (1,952)	Generative Artificial Intelligence (696)
Marketing (1,049)	Leadership (1,124)	Microsoft Excel (505)
Workflow Management (980)	Operations (944)	Microsoft Office (480)

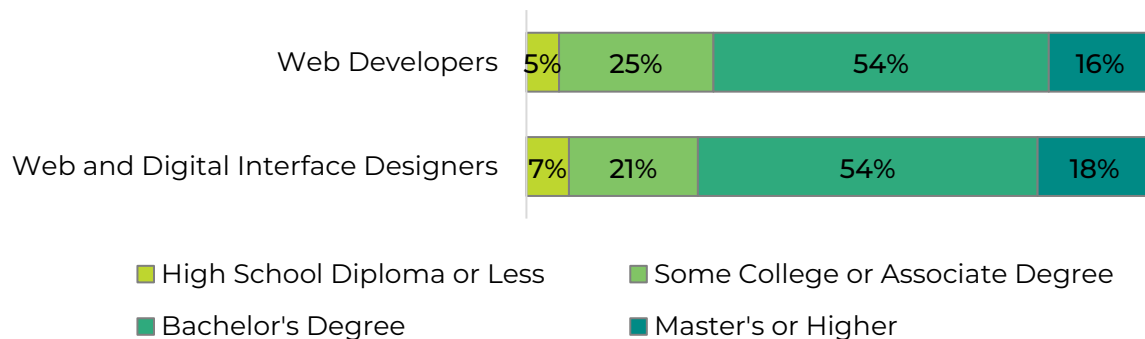
Generative Artificial Intelligence (696)	Management (885)	ChatGPT (428)
Project Management (674)	Detail Oriented (844)	Microsoft PowerPoint (309)
Reviewing Applications (485)	Sales (840)	Dashboard (273)
Automation (473)	Problem Solving (691)	Microsoft Outlook (263)
Data Analysis (456)	Innovation (635)	Salesforce (227)
ChatGPT (428)	Presentations (620)	Adobe Photoshop (215)
Cross-Functional Collaboration (394)	Research (608)	Adobe Creative Suite (208)

Educational Attainment

The Bureau of Labor Statistics (BLS) lists bachelor's degree for *web and digital interface designers* and *web developers*.

The national-level educational attainment data indicates between 21% and 25% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 15 shows the educational attainment for each occupation, sorted by highest community college educational attainment to lowest.

Exhibit 15: National-level Educational Attainment for Occupations



Requested Minimum Education Requirement

Of the cumulative job postings for these AI-related occupations in Los Angeles and Orange counties that listed a minimum education requirement:

- 39% (1,481) of Middle-Skill Job Postings
 - 8% (114) requested a high school diploma or associate degree.
 - 88% (1,302) requested a bachelor's degree.
- 50% (1,665) of Program-Related Keywords Job Postings.
 - 18% (292) requested a high school diploma or associate degree.
 - 76% (1,258) requested a bachelor's degree.

Educational Supply

The following supply tables display the total supply for these AI-related occupations that align with these TOP and CIP codes and program needs.

Community College Supply

Exhibit 16 shows the three-year average number of awards conferred by community colleges in the related TOP codes:

- Digital Media (0614.00)
- Website Design and Development (0614.30)
- Software Applications (0702.10)
- Computer Software Development (0707.00)

The colleges with the most completions in the region are Irvine (66), followed by Santa Ana (52), and Coastline (42). Over the past 12 months, there were two other related program recommendation requests from regional community colleges.

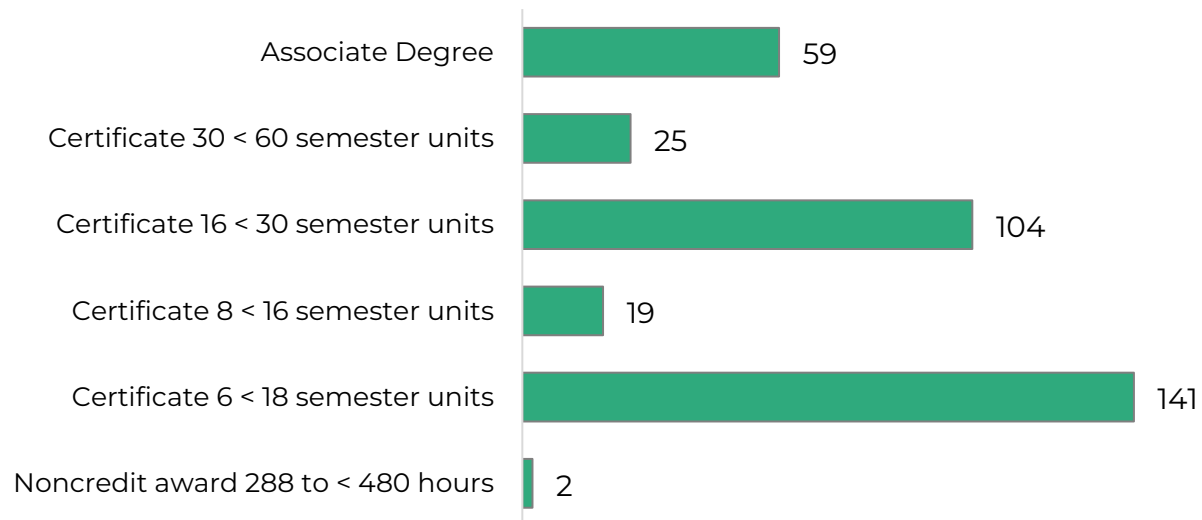
Exhibit 16: Regional Community College Awards (Certificates and Degrees), 2021-24

TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
0614.00	Digital Media	LA Mission	5	1	0	2
		LA Trade	12	14	29	18
		Long Beach	0	0	5	2
		Mt San Antonio	0	2	1	1
		Pasadena	15	9	26	17
		Rio Hondo	1	0	1	1
		Santa Monica	19	6	21	15
		LA Subtotal	52	32	83	56
		Coastline	3	28	5	12
		Cypress	7	4	8	6
		Fullerton	0	0	4	1
		Irvine	3	1	2	2
		Saddleback	1	2	0	1
		Santa Ana	34	71	51	52
		OC Subtotal	48	106	70	75
Supply Subtotal/Average			100	138	153	130
0614.30	Website Design and Development	Citrus	1	0	0	0
		LA Pierce	5	0	3	3
		Long Beach	0	6	9	5
		Mt San Antonio	1	0	0	0
		Pasadena	7	3	10	7
		Santa Monica	2	5	3	3
		West LA	3	4	6	4

TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
		LA Subtotal	19	18	31	23
		Coastline	0	4	0	1
		Fullerton	2	0	1	1
		Irvine	4	1	0	2
		Orange Coast	13	8	14	12
		Saddleback	4	6	6	5
		Santiago Canyon	5	2	0	2
		OC Subtotal	28	21	21	23
Supply Subtotal/Average			47	39	52	46
0702.10	Software Applications	Cerritos	8	21	28	19
		Glendale	0	0	1	0
		LA City	0	2	1	1
		Long Beach	0	0	1	0
		Mt San Antonio	1	1	0	1
		Santa Monica	12	15	17	15
		LA Southwest	3	0	0	1
		LA Subtotal	24	39	48	37
		Coastline	14	53	20	29
		Cypress	2	1	1	1
		Irvine	89	67	31	62
		Saddleback	10	10	10	10
		OC Subtotal	115	131	62	103
		Supply Subtotal/Average			139	170
0707.00	Computer Software Development	LA City	1	0	0	0
		LA Harbor	2	2	0	1
		LA Mission	2	0	0	1
		LA Pierce	7	7	9	8
		Santa Monica	1	2	0	1
		West LA	6	1	4	4
		LA Subtotal	19	12	13	15
		Golden West	4	1	1	2
		Saddleback	15	16	24	18
		OC Subtotal	19	17	25	20
Supply Subtotal/Average			38	29	38	35
Supply Total/Average			324	376	353	351

Exhibit 17 shows the annual average community college awards by type from 2021-22 to 2023-24. The plurality of the awards are for certificate 6 to 18 semester units, followed by certificate 16 to 30 semester units and associate degree.

Exhibit 17: Annual Average Community College Awards by Type, 2021-2024



Community College Student Outcomes

Exhibit 18 shows the Strong Workforce Program (SWP) metrics for computer software development programs in South Orange County Community College District (SOCCCD), the Orange County Region, and California. Of the 637 Orange County computer software development students in the 2023-24 academic year, 67% (424) attended an SOCCCD college.

SOCCCD students that exited computer software development programs in the 2022-23 academic year had higher median annual earnings (\$60,604 or \$29.14 per hour) compared to all computer software development students in Orange County (\$50,096 or \$24.08 per hour). A higher percentage of SOCCCD computer software development students attained the living wage (51%) when compared to all computer software development students in Orange County (43%).

**Exhibit 18: Computer Software Development (0707.00)
Strong Workforce Program Metrics, 2021-2024⁴**

SWP Metric	SOCCCD	OC Region	California
SWP Students	424	637	6,288
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	25%	29%	27%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	67%	72%	67%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	14	15	139

⁴ All SWP metrics are for 2023-24 unless otherwise noted.

SWP Metric	SOCCCD	OC Region	California
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2022-23)	33	59	475
SWP Students with a Job Closely Related to Their Field of Study (2021-22)	Insufficient Data	67%	64%
Median Annual Earnings for SWP Exiting Students (2022-23)	\$60,604 (\$29.14)	\$50,096 (\$24.08)	\$52,028 (\$25.01)
Median Change in Earnings for SWP Exiting Students (2022-23)	8%	10%	22%
SWP Exiting Students Who Attained the Living Wage (2022-23)	51%	43%	48%

Non-Community College Supply

To comprehensively analyze the regional supply, it is crucial to include data from other institutions offering computer software development programs. Exhibit 19 displays the annual and three-year average awards granted by these institutions under the related Classification of Instructional Programs (CIP) codes:

- Computer Programming/Programmer, General (11.0201)
- Web Page, Digital/Multimedia and Information Resources Design (11.0801)
- Digital Marketing (52.1404)

The available data covers 2020 to 2023. During this period, non-community college institutions in the region conferred an average of 28 awards annually in related programs.

Exhibit 19: Regional Non-Community College Awards, 2020-2023

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
11.0201	Computer Programming/Programmer, General	ABCO Technology	34	14	17	22
		Platt College-Anaheim	0	0	0	0
		ABCO Technology	34	14	17	22
Supply Subtotal/Average			34	14	17	22
11.0801	Web Page, Digital/Multimedia and Information Resources Design	Los Angeles Pacific College	4	6	2	4
		Platt College-Anaheim	0	0	0	0
		Westcliff University	3	4	1	3
Supply Subtotal/Average			7	10	3	7
52.1404	Digital Marketing	Mount Saint Mary's University	0	0	0	0
Supply Subtotal/Average			0	0	0	0
Supply Total/Average			41	24	20	28

Regional Demographics

The following section presents occupational, community college program, and population demographic data for Orange County. This comparison can help identify possible equity gaps between the local workforce and the student pipeline who are preparing for these occupations. These insights can inform program development, outreach, and support strategies to better align community college programs with current labor market needs.

Ethnicity

Exhibit 20 compares the ethnicity of Orange County community college students enrolled in computer software development programs, the overall Orange County population, and occupation-specific data for the two AI occupations included in this report.

Nearly half (46%) of the AI-related occupation workforce is white, which exceeds their representation in computer software development programs (32%). In contrast, Hispanic or Latino individuals make up 24% of program enrollment but only 18% of the workforce. This disparity suggests a potential disconnect between education and employment outcomes, and that white workers may be entering these jobs through alternate training pathways. Alternatively, Asian (students 30%, workers 31%) and Black or African American (students 2%, workers 1%) individuals show closely aligned shares, suggesting a proportional education-to-employment pipeline for these groups.

Exhibit 20: Program and County Demographics by Ethnicity

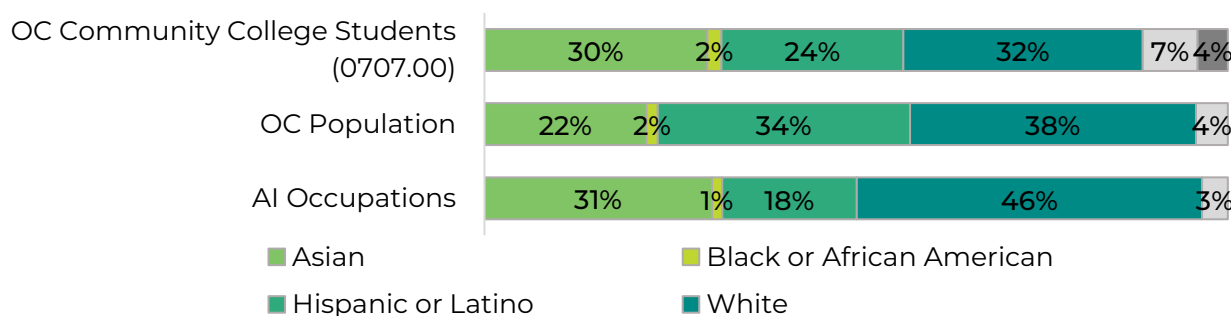
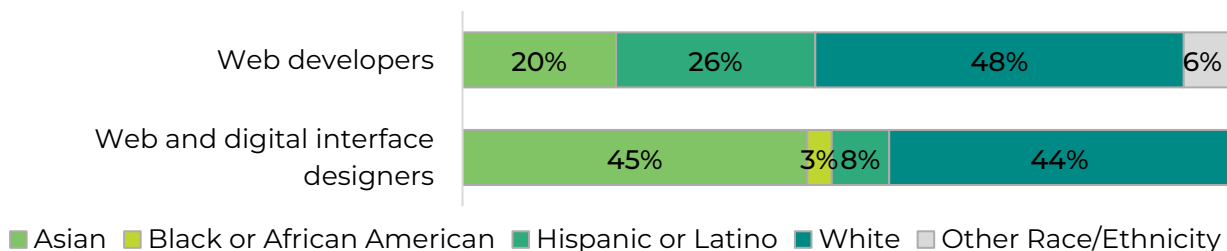


Exhibit 21 shows the disaggregated ethnicity data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

White individuals have strong representation in both the higher-paying and lower-paying AI-related occupations (44% of *web and digital interface designers* and 48% of *web developers*, respectively). Asian workers are most concentrated in the higher-paying occupation, where they make up 45% of the workforce. In contrast, the lower-paying occupation has the highest representation of Hispanic or Latino (26%) and Black or African American (3%) individuals.

Exhibit 21: Disaggregated Ethnic Distribution by Occupation



Age

Exhibit 22 compares the age of Orange County community college students enrolled in computer software development programs, the overall Orange County population, and occupation-specific data for the two AI-related occupations included in this report.

The majority of workers (64%) are aged 25 to 49, indicating a concentration of early- to mid-career workers. In contrast, students in related programs skew younger, with 60% aged 24 or less. This gap suggests that additional training or experience may be required before entering the AI-related workforce.

Exhibit 22: Program and County Demographics by Age

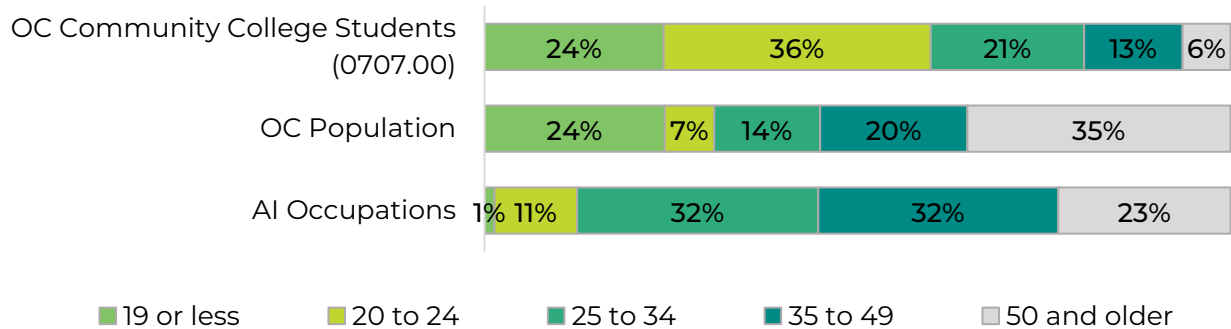
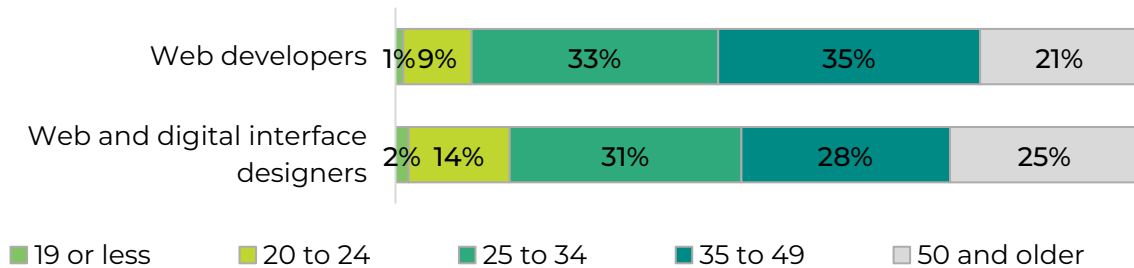


Exhibit 23 shows the disaggregated age data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

Both AI-related occupations have a high concentration of individuals aged 25 to 49, suggesting these occupations primarily attract early- to mid-career professionals.

Exhibit 23: Disaggregated Age Distribution by Occupation



Sex

Exhibit 24 compares the sex of Orange County community college students enrolled in computer software development programs, the overall Orange County population, and occupation-specific data for these AI-related occupations.

Though the population is split evenly between women and men, only 37% of AI-related workforce and 26% of community college enrollments, are women.

Exhibit 24: Program and County Demographics by Sex

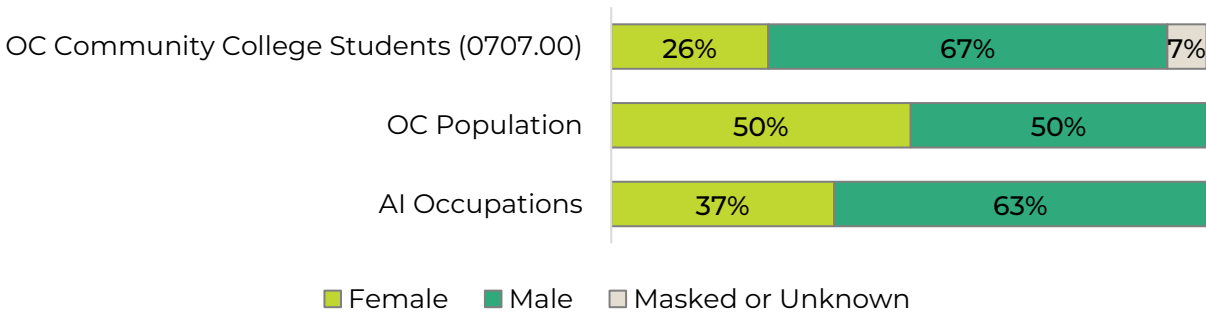
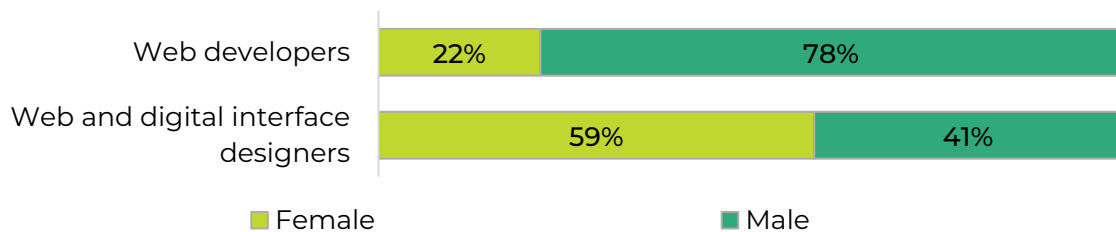


Exhibit 25 shows the disaggregated sex data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

Gender representation varies across the AI-related occupations included in this report. The lower-paying occupation, *web developers*, has the largest share of male workers (78%), while women make up the majority of the higher-paying occupation, *web and digital interface designers* (59%). These contrasts underscore persistent gender disparities in the AI-related workforce, with technical specializations skewing male and design-based roles skewing female.

Exhibit 25: Disaggregated Sex Distribution by Occupation



Appendix A: Methodology

OC COE prepared this report by analyzing occupational and educational program data. Occupational data comes from Lightcast, a labor market analytics firm which compiles information from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS), and other agencies. Analysis of emerging occupations is predicated on online job postings data combined with Occupational Information Network (O*NET) profile descriptions. Program supply data was sourced from the California Community Colleges Chancellor's Office Data Mart (MIS Data Mart) (datamart.cccco.edu) and the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data), also known as IPEDS, which was integrated into the COE's Supply Table. (IPEDS).

Using a TOP-SOC crosswalk, the OC COE identified middle-skill jobs for which programs within these TOP codes train. Middle-skill jobs include:

- All occupations that have an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

The OC COE determined labor market supply for each occupation (SOC code) by analyzing the number of 3-year average program completers or awards in related TOP and CIP codes. TOP code data comes from MIS Data Mart and CIP code data comes from the IPEDS. The TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education throughout the United States and Canada. The California Community Colleges are the only system that use TOP codes.

The analysis reflects labor market demand for occupations closely related to the proposed program as expressed by the requesting college in consultation with the OC COE. assess current and projected employment based on data trends for detailed occupations, as well as annual average awards granted by regional postsecondary educational institutions. Real-time labor market information (online job postings) assesses employer preferences but cannot be used to measure the quantity of open positions, number of jobs, or annual openings.

All findings are based on the most current available data and a combination of primary and secondary sources. While care was taken to ensure accuracy, the OC COE, its host district, and the California Community Colleges Chancellor's Office are not responsible for individual decisions made based on this report.

Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	Traditional and real-time labor market information are captured using data from Lightcast (v.2025.4), a labor market analytics firm.
Living Wage	<p>Per the CCCCCO's this report's endorsement criteria uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard last updated in March 2024, which is \$27.13 per hour (\$57,294 annually) in Orange County.</p> <p>The MIT Living Wage, updated on February 10, 2025, is a nationally recognized living wage metric and is provided for reference. The current MIT Living Wage in Orange County is \$32.20.</p>
Typical Education and Training Requirements, and Educational Attainment	The Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data.
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations.
Educational Supply	<p>The CCCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff.</p> <p>The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions).</p>
Student Metrics and Demographics	The Data Vista (v.2.0), a statewide data system supported by the California Community Colleges Chancellor's Office provides data on progress, success, employment, and earnings outcomes for California community college students.
Population and Occupation Demographics	<p>The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information.</p> <p>Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products.</p>

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