



MARICOPA
COMMUNITY COLLEGES

— EXCELLENCE IN LMI ANALYTICS

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Introduction

Artificial intelligence is now a defining force of the present rather than a distant technological breakthrough. It is embedded in daily operations across the economy, with organizations in every sector integrating tools such as machine learning, automation, and generative AI to enhance efficiency and innovation. As AI adoption accelerates, the nature of work is shifting in measurable ways. Some occupations are being automated or displaced, while others are being augmented—or even newly created—as AI reshapes job functions and generates emerging categories of work. The rapid rise of platforms like ChatGPT and Copilot has intensified concerns about job substitution in certain sectors. Yet understanding the actual, quantifiable impact of AI on occupations is essential for strategic planning across community colleges, workforce educators, and policymakers. Clear insight into these dynamics enables institutions to anticipate shifts in labor-market demand and to identify the skills that will be most critical for future employability.

This analysis examines the relationship between artificial intelligence job postings and job postings across 507 occupations, using empirical labor-market data from Lightcast to determine whether AI is diminishing, increasing, or reconfiguring demand for specific roles. By simulating and quantifying these patterns, MCCCCD can move beyond speculation and toward a clearer understanding of how AI reshapes industries—and, in turn, how it should shape the programmatic offerings of Maricopa Community Colleges. Ultimately, the goal is to illuminate where future workers, today's students, may face heightened risk due to AI-driven change, where new opportunities are emerging, and how Maricopa Colleges can respond strategically to support the next generation of learners.

Methodology

Data was collected from Lightcast, a labor-market analytics platform that provides daily, monthly, and annual job-posting information by occupation and by skill. For this analysis, monthly counts of job postings requiring artificial intelligence skills were extracted, along with monthly occupational job postings for 507 distinct roles within Maricopa County, Arizona. A time series was constructed for each occupation and paired with the corresponding AI-related posting series. Although the available dataset spans January 2010 through December 2025, only data from January 2018 to December 2025 was used, reflecting the period in which AI-related postings expanded at an exponential rate. Each occupational time series was merged with the same AI time series to enable consistent comparison across roles. Additionally, a dummy variable was created to account for the effects of the COVID-19 pandemic during the years 2020–2022.

Once the dataset was cleaned and organized, a multivariate regression analysis was conducted in which each occupation's job-posting series was treated as the dependent variable, and both artificial intelligence job postings and a pandemic-period covariate served as the independent variables. In this type of analysis, it cannot be assumed that occupational posting patterns move in direct alignment with AI-related postings. Occupational dynamics are well documented to depend on broader structural factors such as labor availability, demographic trends, wage conditions, and industry-specific shocks.

The purpose of the analysis is to assess whether an occupation's posting trajectory resembles the pattern exhibited by AI job postings. A stronger association indicates a greater degree of potential AI-related influence, whether positive or negative, on that occupation's labor-market performance.

The multivariate specification adopts a log-log functional form. Both occupational postings and AI postings were transformed using natural logarithms to improve model fit, stabilize variance, and capture proportional (elasticity-based) relationships. This transformation also reduces the influence of exponential, linear, or quadratic patterns that may otherwise distort the association. Future analyses may explore alternative functional forms to evaluate nonlinear or occupation-specific dynamics. The generalized formula for the occupational model is depicted as follows:

$$\ln(\text{Postings}_{i,t}) = \alpha_i + \beta_1 \ln(\text{AI}_t) + \beta_2 \text{COVID}_t + \varepsilon_{i,t}$$

Where:

- $[i = 1, \dots, 507]$ indexes individual occupations.
- $[t]$ indexes the month-year observation.
- α_i = represents fixed intercept for occupation i .
- β_j = denotes the estimated parameters associated with each independent variable
- $\ln(\text{Postings}_{i,t})$ is the natural logarithm of job postings for occupation i at time t .
- $\ln(\text{AI}_t)$ is the natural logarithm of artificial intelligence related job posting.
- COVID_t equals 1 during the pandemic-affected periods and 0 otherwise.
- $\varepsilon_{i,t}$ captures unobserved shocks and random disturbances.

To evaluate statistical significance and the direction of the relationship, five classification categories were constructed. Significance was determined using the p-value, which measures the strength of evidence for an AI-related impact, and the coefficient sign, which indicates whether the relationship is positive or negative. Models in which the p-value for the artificial-intelligence variable was below 0.05 were classified as exhibiting a statistically significant impact. P-values between 0.05 and 0.10 were interpreted as indicating a marginal or borderline effect, while p-values greater than 0.10 were considered evidence of no meaningful relationship between occupational job postings and AI postings.

The regression coefficient was used to determine the direction of the association. A positive coefficient indicates that increases in AI job postings are associated with increases in job postings for that occupation. Conversely, a negative coefficient reflects an inverse relationship, implying that as AI postings expand, job postings for the occupation tend to decline. The following contain a summary of the impacts:

| p-value | Coefficient | Occupation-AI Relationship |
|------------|----------------------|---------------------------------|
| < = 0.05 | Positive | Significantly Adding Postings |
| < = 0.05 | Negative | Significantly Reducing Postings |
| 0.05 – 0.1 | Positive | Mildly Adding Postings |
| 0.05 – 0.1 | Negative | Mildly Reducing Postings |
| > 0.1 | Positive or Negative | No Effect |

Table 1: Criteria to Classify Occupational Models by Significance and Direction

Once the classification constructs were established, the 507 occupations, defined according to the Standard Occupational Classification (SOC) system, were aggregated into 22 major groups, commonly referred to as 2-Digit SOC codes. Reducing the dataset from 507 detailed occupations to 22 broader categories allows for clearer pattern recognition and more interpretable labor-market insights.

After both the impact-classification criteria (Table 1) and the SOC major groups were defined, a series of analytical tables was generated to address three core objectives:

1. Identify declining or benefiting occupations: quantifying how many occupations exhibit negative, positive, or negligible relationships with AI.
2. Estimate jobs at risk: determining the volume of job postings potentially vulnerable to AI-related displacement.
3. Assess job gains and losses: inferring the number of positions (proxied by job postings) that may expand or contract as artificial intelligence adoption accelerates.

These summaries provide a structured view of how AI may be reshaping labor demand across the region and help contextualize where workforce development strategies may need to adapt.

The interpretations associated with items (1) and (2) are relatively straightforward, as they primarily involve identifying which occupations fall into each impact classification and drawing observations from those groupings. However, item (3), estimating the number of jobs gained or lost due to AI development, requires more than simply counting occupations or job postings. This component necessitates a simulation framework.

To conduct this simulation, occupational job postings are forecasted by regressing both the minimum and maximum historical levels of AI job postings for 2025 into each occupation's regression model. The difference between the minimum and maximum predicted occupational postings represents the net gain or loss attributable to AI for that year. This difference is then interpreted as the expected annual net change in occupational job postings associated with AI-driven developments.

$$\Delta Postings_{i,t}^{AI} = \widehat{Postings}_{i,t}^{max} - \widehat{Postings}_{i,t}^{min}$$

Results

Although artificial intelligence has been under development for many years, Figure 1 illustrates the recent trajectory of AI-related job postings. In January 2018, AI postings began at 89. By December 2025, this number had increased to 1,156. From 2018 through June 2022, postings grew at an average rate of approximately 6% per year. However, as shown in Figure 1, the onset of the pandemic produced a sharp contraction: postings fell from 629 to 295 in a single month, a 53% shock.

Following this decline, AI-related postings continued to fall, reaching a low point of 170 in May 2023. As pandemic-related disruptions began to subside, demand for AI skills rebounded rapidly. Job postings requiring AI expertise accelerated sharply, ultimately reaching 1,156 by December 2025.

This pattern highlights the volatility introduced by the pandemic and the subsequent surge in AI-driven labor-market demand.

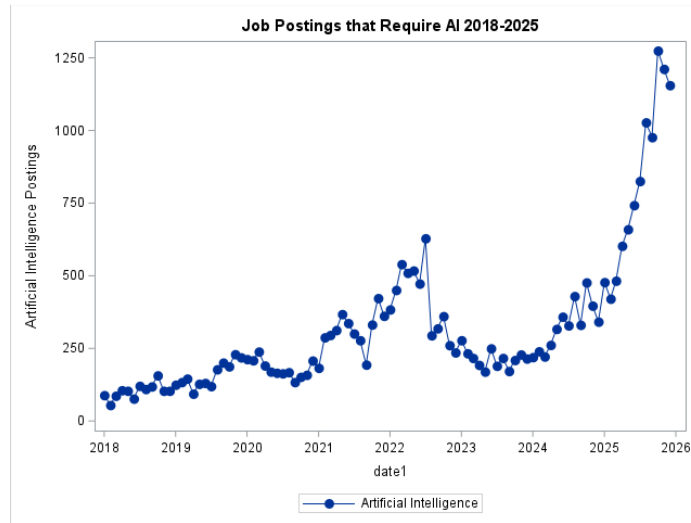


Figure 1: Monthly Job Postings requiring Artificial Intelligence Skills.

Figure 1 illustrates the month-to-month volatility of AI-related job postings, but annual aggregates provide a broader perspective on the overall trajectory of AI demand. Figure 2 presents this annualized view. The pattern closely mirrors the monthly dynamics: AI postings totaled 1,233 in 2018, and by 2022 the average annual growth rate had reached approximately 43%. During 2023, postings declined sharply to 2,573, marking the lowest annual level in the series. This downturn was short-lived. AI postings rebounded rapidly in 2024 and 2025, with annual growth rates of 53% and 151%, respectively, ultimately reaching 9,800 postings in Maricopa County alone.

This annual perspective reinforces the broader trend: despite temporary contractions, the long-run trajectory of AI demand is accelerating at an exceptional pace.

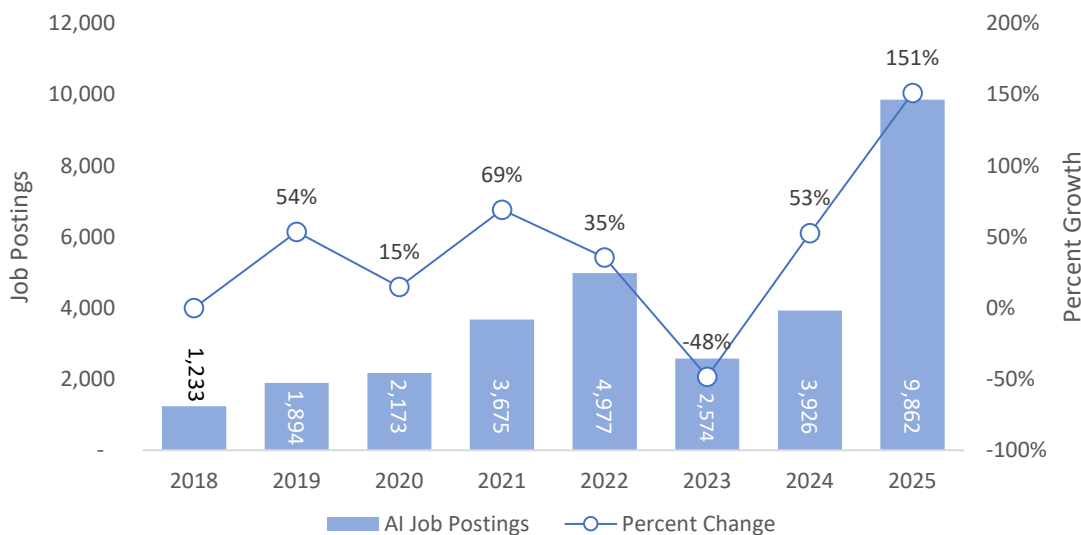


Figure 2: Annualized Job Postings for Artificial Intelligence.

Understanding the interrelationship between AI job postings and overall occupational demand also requires examining the broader labor-market context. Figure 3 presents annualized job postings for all

occupations in Maricopa County. In 2018, total postings stood at approximately 625,000. From 2018 through 2022, postings expanded at an average annual rate of 12%, reaching 981,000. In 2023, however, the labor market experienced a sharp contraction: total postings fell by 32% to 664,000. Since that decline, occupational demand in Maricopa County has remained subdued, stabilizing around 604,000 postings in 2025.

This trend provides important context for interpreting AI’s influence. While AI-related postings have surged, overall labor demand has not recovered to pre-2023 levels, suggesting that AI growth is occurring alongside a broader softening in the regional job market.

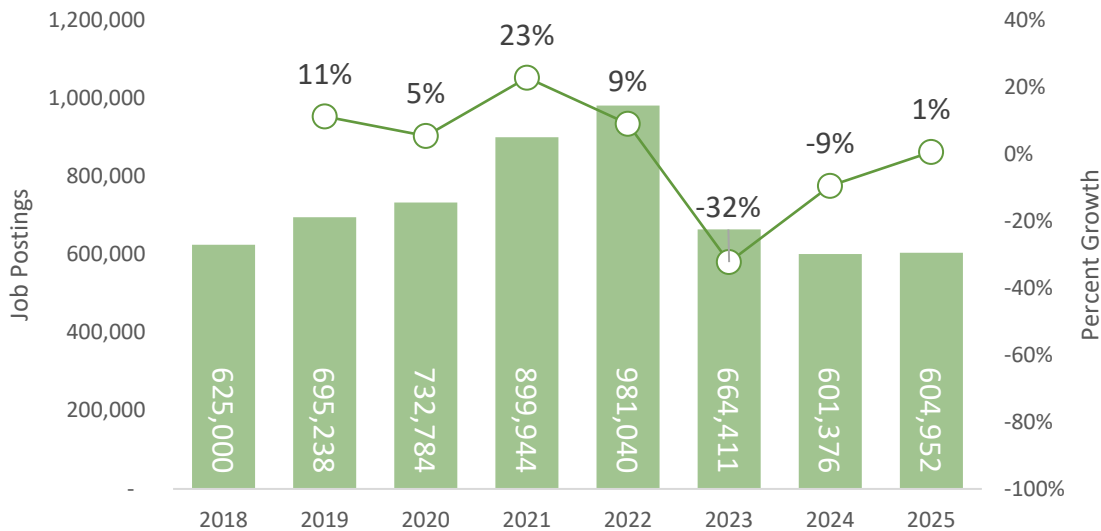


Figure 3: Annualized Job Postings for All Occupations in Maricopa County

As shown in Figure 2 and Figure 3, both AI-related postings and overall occupational postings followed a very similar trajectory through 2022. After that point, AI job postings experienced a sharp decline but then recovered rapidly, while the broader labor-market pattern for all occupations remained persistently low throughout the same period.

Results – Occupation Count

When the significance and direction metrics are mapped onto the broader occupational classes (2-Digit SOC codes), a count of occupations within each category is generated to identify general patterns, as shown in Table 2. Results indicate that artificial intelligence poses a significant negative impact on 20 Administrative, 10 Computer and Mathematical, and 9 Arts/Design/Entertainment/Sports/Media occupations. In these cases, a positive unit change in AI job postings is associated with a declining pattern in the corresponding occupational postings. Occupations classified as negatively affected represent approximately 13% of all occupations analyzed.

Table 2 also shows relatively small numbers of occupations experiencing marginal losses or marginal gains. Among those mildly declining are occupations in Arts/Design/Entertainment/Sports/Media, Computer and Mathematical, and Healthcare Practice. Conversely, occupations showing mild gains include those in Engineering, Installation and Maintenance, and Production.

The largest groups of occupations showing no statistically significant relationship with AI include Administrative, Production, and Business occupations, with 17, 17, and 15 occupations respectively.

Finally, the analysis identifies 235 occupations (46%) that exhibit a statistically significant positive relationship when regressed against AI job postings. These occupations tend to increase in demand as AI postings rise, suggesting complementary or AI-augmenting dynamics.

| Occupational Class | Significance / Direction | | | | | All |
|---------------------------|---------------------------------|--------------------------|------------|------------------------|-------------------------------|------------|
| | Significantly Reducing Postings | Mildly Reducing Postings | No Effect | Mildly Adding Postings | Significantly Adding Postings | |
| Administrative | 20 | . | 17 | . | 5 | 42 |
| Arts, etc. | 9 | 2 | 10 | 1 | 12 | 34 |
| Business | 7 | . | 15 | . | 7 | 29 |
| Cleaning and Maintenance | | . | 3 | . | 4 | 7 |
| Community and Social Svc. | | 1 | 6 | . | 6 | 13 |
| Computer and Math | 10 | 2 | 7 | . | 1 | 20 |
| Construction | 1 | 1 | 7 | . | 14 | 23 |
| Education | . | . | 10 | . | 4 | 14 |
| Engineering | . | . | 14 | 2 | 12 | 28 |
| Farming | 1 | . | 1 | . | 2 | 4 |
| Food Prep | . | . | 7 | . | 7 | 14 |
| Healthcare Practice | 1 | 2 | 8 | 1 | 48 | 60 |
| Healthcare Support | 2 | . | 3 | . | 11 | 16 |
| Installation Maintenance | 4 | . | 5 | 3 | 17 | 29 |
| Legal | . | . | 4 | . | 3 | 7 |
| Life Physical | 1 | . | 12 | . | 12 | 25 |
| Management | 1 | 1 | 9 | . | 23 | 34 |
| Personal Care | 2 | . | 9 | . | 6 | 17 |
| Production | 4 | . | 17 | 2 | 14 | 37 |
| Protective Svc | . | . | 5 | . | 7 | 12 |
| Sales | 4 | . | 8 | . | 9 | 21 |
| Transportation | 1 | . | 9 | . | 11 | 21 |
| All | 68 | 9 | 186 | 9 | 235 | 507 |

Table 2: Count of Occupations Classified by Class Significance and Direction

Table 2 highlights the occupations that are significantly adding job postings, and a notable concentration emerges within Healthcare Practice occupations. According to WFA estimations, 48 out of the 60 occupations in this category fall into the significantly-positive group representing 80% of all Healthcare Practice occupations. This indicates that increases in AI job postings are strongly associated with rising demand across most healthcare practice roles.

Other occupational groups also show elevated concentrations of positive relationships. For example, Installation and Maintenance occupations exhibit a 59% share of SOC codes with significant positive effects, while Management occupations show a 68% concentration. These patterns suggest that AI adoption may be complementing or augmenting labor demand in these fields rather than displacing it.

Results – Jobs Count

Counting the number of occupations is useful for identifying broad patterns across occupational groups; however, not all occupations contribute the same volume of job postings. For example, Administrative Services does not generate the same number of postings as Healthcare Practitioners, meaning that a

simple occupation count may obscure the true scale of potential impacts. To estimate the number of jobs that may be at risk, unaffected, or benefiting from artificial intelligence, it is necessary to modify the structure of Table 2 by replacing the occupation counts with the number of job postings associated with each impact category for a given time period.

Table 3 implements this approach by reporting the total number of postings by job classification (rows) and by direction and significance of the AI relationship (columns) for the year 2025. This allows for a more accurate assessment of the magnitude of AI-related effects across the labor market.

Jobs at Risk

Estimates indicate that approximately 89,500 jobs could be at risk of being negatively affected by artificial intelligence. This represents nearly 15% of all job postings analyzed. Within this at-risk category, Office and Administrative Support, Computer and Mathematical, and Business occupations account for 79% of the total. In practical terms, this translates to roughly 70,400 openings that may experience downward pressure due to AI-driven developments.

The remaining at-risk occupations are distributed across several additional categories, including Transportation, Sales, and Healthcare Support, among others. These findings underscore that while AI's negative impacts are concentrated in a few major occupational groups, its influence extends across a broader segment of the labor market.

Jobs with No Effect

Occupations showing no measurable AI effect account for approximately 29% of all job postings analyzed in 2025. The largest classifications within this group include Sales (36,000 postings), Office and Administrative Support (16,800 postings), and Business-related occupations (16,300 postings). Together, these three categories represent 39% of all postings in which artificial intelligence exhibits no statistically significant relationship.

When the data is evaluated as the share of postings within each classification that show no AI effect, additional patterns emerge. Education occupations display the highest share, with 70% of postings showing no relationship to AI. Production (Manufacturing) occupations follow at 60%, and Sales occupations show 59% of postings with no detectable AI impact. These findings suggest that certain sectors remain largely insulated from AI-driven labor-market dynamics, at least within the current period of analysis.

Jobs with Significantly Adding Postings

Jobs benefiting from AI account for 55% of all job postings analyzed, totaling approximately 330,500 postings. Several patterns observed in Table 2 reappear here. The three classifications with the largest volumes of postings benefiting from AI are Healthcare Practitioners, Management, and Installation and Maintenance, which together represent 51% of all jobs in the "AI-benefiting" category. Even more striking is the concentration within these groups: 92%, 93%, and 91% of all postings in these respective classifications fall into the category where AI significantly increases job postings.

Other classifications also show high shares of postings benefiting from AI, though at smaller absolute levels. These include Healthcare Support and Protective Services (each at 87%), Life/Physical/Social Sciences (85%), and Farming (93%). These patterns suggest that AI adoption is strongly complementary to labor demand in several technical, scientific, and service-oriented fields.

Conversely, some classifications show low levels of benefit from AI. These include Computer and Mathematical occupations (3%), Office and Administrative Support (14%), Transportation (28%), and Education (29%). These results indicate that AI's positive effects are unevenly distributed across the labor market.

Finally, occupations experiencing mild impacts, either positive or negative, represent only 2% of total postings. For detailed distributions across all categories, refer to Table 3, which summarizes these patterns comprehensively.

| Occupational Class | Significance / Direction | | | | | All |
|------------------------------|---------------------------------|--------------------------|----------------|------------------------|-------------------------------|----------------|
| | Significantly Reducing Postings | Mildly Reducing Postings | No Effect | Mildly Adding Postings | Significantly Adding Postings | |
| Architecture and Eng. | | | 5,750 | 1,612 | 7,504 | 14,866 |
| Arts and Entertainment | 1,286 | 904 | 4,910 | 323 | 5,701 | 13,124 |
| Business | 16,486 | | 16,285 | | 16,338 | 49,109 |
| Cleaning and Maintenance | | | 5,839 | | 6,795 | 12,634 |
| Community and Social Svc | | 1,190 | 3,656 | | 4,264 | 9,110 |
| Construction | 91 | 65 | 2,715 | | 6,625 | 9,496 |
| Education | | | 14,580 | | 6,201 | 20,781 |
| Farming | 24 | | 44 | | 889 | 957 |
| Food Preparation | | | 14,337 | | 19,163 | 33,500 |
| Healthcare Practitioners | 1,252 | 378 | 4,875 | 153 | 82,052 | 88,710 |
| Healthcare Support | 2,109 | | 1,157 | | 21,728 | 24,994 |
| IT | 24,218 | 1,011 | 14,683 | | 1,058 | 40,970 |
| Installation and Maintenance | 838 | | 1,117 | 653 | 25,541 | 28,149 |
| Legal | | | 1,814 | | 3,204 | 5,018 |
| Life Physical and social | 133 | | 943 | | 6,111 | 7,187 |
| Management | 5 | 74 | 4,552 | | 62,502 | 67,133 |
| Office and Admin Support | 29,730 | | 16,793 | | 7,824 | 54,347 |
| Personal Care | 691 | | 2,443 | | 4,645 | 7,779 |
| Production | 583 | | 10,256 | 809 | 5,505 | 17,153 |
| Protective Svc | | | 1,046 | | 7,066 | 8,112 |
| Sales | 3,659 | | 36,064 | | 21,131 | 60,854 |
| Transportation | 8,418 | | 13,933 | | 8,618 | 30,969 |
| All | 89,523 | 3,622 | 177,792 | 3,550 | 330,465 | 604,952 |

Table 3: Sum of Postings Classified by Class Significance and Direction

Simulation Results

When the significance and direction metrics are extended to the occupational classes (2-Digit SOC codes), Tables 2 and 3 help identify which occupations are gaining or losing job postings due to AI. However, neither table directly measures the net effect of artificial intelligence on each occupation. The central question is: for a given occupation, how much is it gaining or losing over a specific period of time?

As described in the methodology section, answering this requires two simulation models. The first estimates the number of job postings an occupation would have if AI postings were at their minimum level for the period. The second estimates the number of postings under the maximum level of AI postings. The difference between these two simulated outcomes represents the net effect of AI on each occupation.

These simulations were conducted for the 2025 calendar year, using a minimum monthly AI-posting level of 421 and a maximum of 1,275. The resulting differences quantify the expected gains or losses in job postings attributable to AI for each occupation.

To illustrate the simulation process, consider the occupation Accountants and Auditors (SOC 13-2011). The regression results indicate that a 1% increase in AI job postings is associated with a 10% decline in postings for Accountants and Auditors, holding all other factors constant. Under the minimum AI-posting level of 421, the model predicts 417 postings for this occupation. Under the maximum AI-posting level of 1,275, the model predicts 373 postings. The difference, 44 fewer postings, or a 10.6% decline, represents the net effect of AI on Accountants and Auditors during 2025. This example demonstrates how the simulation framework quantifies the magnitude of AI-related gains or losses for each occupation.

| Class | Predicted Min | Predicted Max | Difference | Percent Change |
|------------------------------|---------------|---------------|--------------|----------------|
| Healthcare Practitioners | 6,733 | 8,782 | 2,049 | 39% |
| Management | 5,845 | 6,977 | 1,132 | 19% |
| Healthcare Support | 2,142 | 2,882 | 740 | 35% |
| Installation and Maintenance | 2,478 | 3,028 | 550 | 13% |
| Food Preparation | 3,300 | 3,746 | 445 | 11% |
| Protective Svc | 699 | 915 | 216 | 22% |
| Life Physical and social | 579 | 765 | 187 | 17% |
| Construction | 864 | 1,046 | 182 | 20% |
| Transportation | 2,895 | 3,076 | 180 | 18% |
| Sales | 5,659 | 5,838 | 178 | 6% |
| Education | 1,745 | 1,916 | 171 | 13% |
| Cleaning and Maintenance | 1,222 | 1,384 | 161 | 12% |
| Community and Social Svc | 840 | 997 | 157 | 21% |
| Production | 1,529 | 1,679 | 150 | 13% |
| Architecture and Eng. | 1,337 | 1,484 | 147 | 15% |
| Arts and Entertainment | 1,097 | 1,240 | 142 | 6% |
| Legal | 416 | 538 | 122 | 17% |
| Personal Care | 750 | 828 | 77 | 5% |
| Business | 4,485 | 4,559 | 74 | 2% |
| Farming | 88 | 102 | 15 | 4% |
| Computer and Mathematical | 3,853 | 3,457 | -396 | -7% |
| Office and Admin Support | 5,358 | 4,926 | -433 | -9% |
| All | 53,914 | 60,163 | 6,249 | 14% |

Table 4: Simulated Minimum and Maximum Job Postings with Regards to AI Postings

Table 4 presents a summary of the simulations conducted for all 507 occupations. The model predicts that when monthly AI job postings are at their minimum level of 421 (in 2025), the expected total number of job postings across all occupations is approximately 54,000. When AI postings reach their maximum level of 1,275, the expected total rises to roughly 60,000. This indicates that, in aggregate, as

AI activity increases, overall job postings also increase. The resulting net effect is an estimated 6,300 additional postings, representing a 14% increase from the minimum to the maximum simulation scenario.

As expected, some occupations experience larger gains than others. Healthcare Practitioners show the strongest positive response, with a net increase of approximately 2,000 postings, accounting for 32% of the overall effect. Occupations contributing most to this growth include Registered Nurses, Radiologic Technologists, Nurse Practitioners, and Physical Therapists. Additional healthcare-related occupations with substantial gains include Magnetic Resonance Technologists, Dentists, Veterinary Technicians, Diagnosing Practitioners, and Nuclear Medicine Technologists, among others.

Other major groups expected to benefit from AI expansion include Management, Healthcare Support, and Installation and Maintenance occupations. These patterns align with earlier findings in Table 2 and Table 3, where these categories consistently showed strong positive relationships with AI.

Conversely, Computer and Mathematical and Administrative occupations are expected to experience declines, with net reductions of roughly 400 postings in each category. The largest individual decline is observed among Customer Service Representatives, whose postings fall from 1,255 to 1,009, a decrease of 236. Software Developers show the second-largest decline, dropping from 1,018 to 801 (a loss of 217). Other occupations negatively affected by AI expansion include Computer Network Architects, Web Developers, Network Systems Administrators, Software Quality Assurance Analysts, User Support Specialists, Secretaries, Bookkeepers/Accountants, and Data-Entry Keyers. A dashboard is expected to depict these patterns in the near future.

Summary

This analysis shows that artificial intelligence is reshaping the labor market in Maricopa County in measurable and uneven ways. By examining more than 500 occupations and simulating how changes in AI job postings affect labor demand, several clear patterns emerge.

First, AI does not uniformly replace jobs. Instead, its impact varies widely across occupations. About 15% of jobs appear at risk of declining as AI adoption grows, with the largest effects concentrated in Office and Administrative Support, Computer and Mathematical, and Business roles. These occupations account for nearly four out of every five at-risk postings.

Second, roughly 29% of jobs show no measurable relationship with AI. Many of these are in Education, Production, and Sales, suggesting that portions of the workforce might remain protected from AI-driven change at least for now.

Results also show that close to 55% of the jobs are benefiting from AI. Growth is especially strong in Healthcare Practitioners, Management, and Installation and Maintenance, which together make up more than half of all AI-complementary postings. In these fields, AI appears to augment rather than replace work, increasing demand for skilled labor.

Finally, the simulation results show that rising AI activity is associated with a net gain of more than 6,000 job postings in 2025, a 14% increase. Healthcare alone accounts for nearly one-third of this growth, while declines are concentrated in technical and administrative occupations.

Overall, the findings suggest that AI is reconfiguring jobs. Some roles face real displacement pressures, and many others are expanding as AI becomes embedded in daily operations.

What does it mean for our colleges?

The results of this analysis show that AI is transforming and reshaping the labor market in ways that have direct and immediate impact for Maricopa Community Colleges. It is well known, even without analysis, the fact that AI is accelerating demand in some fields, reducing it in others and widening wage differentials across occupations. For MCCCCD, this means aligning program offerings with occupations that are growing, resilient and wage advancing while reshaping programs tied to declining or low-wage roles.

In many instances, the occupations that are most positively associated with AI, those gaining the largest number of postings in the simulations, are also among the highest wage and highest growth fields in Maricopa County.

- **Healthcare Practitioners** have a net gain of 2,000 postings (the largest) and it is among the highest median wages in the county (RNs, NPs, radiologic techs). MCCCCD can expand nursing, imaging, allied health and advanced practice certificates, however, MCCCCD has to be clear on the cost implications for each one of these programs.
- In the analysis **Management** has a net gain of 1,132 postings with consistently high median earnings. Among some of the popular program candidates include business leadership, project management, operations and supervisory certificates all with some sort of AI skill development.
- **Installation and Maintenance** gained 550 postings. These occupations have a strong middle skill wage, especially in HVAC, electrical and industrial maintenance. MCCCCD can support skilled-trades programs, automation maintenance and mechatronics.
- The simulations for **Healthcare Support** show 740 postings related to AI with more moderate but stable wages with strong upward mobility. Some of the programs to consider include behavioral science, medical assisting and patient-care tech programs.

The occupations most negatively affected by AI—those losing postings in the simulations—are concentrated in fields that already face lower wages, automation risk, and declining employer demand.

- **Office and Administrative Support** has a net loss of 433 postings with some of the lowest median wages. Traditional clerical and administrative programs should be redesigned towards digital operations, AI-assisted office technologies and customer-facing skills.
- **Computer and mathematical** occupations declined by 400 postings in the simulations and although the wages are high, the decline is concentrated in Software Developers, Network Administrators, QA Analysts and Web Developers' roles where AI tools are substituting for entry-level tasks. MCCCCD should not close these programs but restructure them towards AI aligned skills such as cloud engineering, cybersecurity, data analytics, prompt engineering and AI system integration.
- **Customer Service Reps, Bookkeepers, Data Entry and Secretaries** show the largest declines with low wages. Consider the closure or redesign to emphasize digital experience, CRM systems or AI-supported business operations.

The district's role is to shift capacity toward the occupations where AI is creating opportunity and away from those where it is eroding demand. By aligning programs with these trends and by embedding AI

literacy across the curriculum, MCCCDCD can ensure that students are prepared not only to survive but to thrive in an AI-driven labor market.

For occupation level details please access our [Dashboard](#)