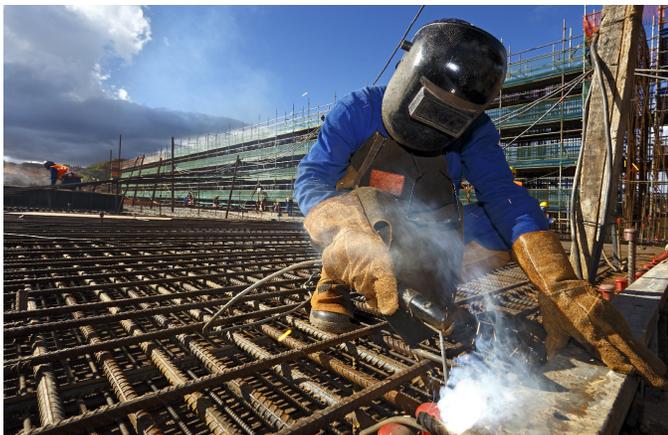


# JOBS IN MAINE

ONLINE JOB POSTINGS BY INDUSTRY,  
OCCUPATION, SKILLS, AND EDUCATION



THIRD QUARTER 2013  
DECEMBER 2013

MAINE DEVELOPMENT FOUNDATION



## Executive Summary

The Maine Development Foundation believes that Maine's human capital is its greatest asset. We are committed to analyzing the impact of developments in the labor market on Maine's workforce and economy. We expect that expanded and more consistent data about labor market and workforce developments will:

- help students and workers make better decisions on careers and job searches;
- guide employers in shaping strategies about workforce development and human resource policies;
- aid education and training providers in gaining deeper insights about the workings of the labor market in order to keep pace with dynamic demands; and
- provide policymakers with a more comprehensive spectrum of information about labor market and workforce developments to help refine public policy and investments.

This report, the second in a series, examines:

- the dynamics of worker hires, and separations ("churning") to expose the significant labor market activity that occurs even when overall growth is limited; and
- internet job postings data that provides new and more in depth perspectives on the occupations, skill sets, and certifications that Maine employers are seeking to attract in the most recent quarter.

As we examine some longer term trends in conjunction with current conditions in Maine's labor market and for the workforce, we find that:

- While the Maine economy has been slow to recover with limited net job gains, there continues to be significant labor market activity. In 2012, the quarterly average of workers separating from their employers was 89,300 and the average of hires was over 91,000. Since the official end of the recession, the data shows that worker separations are moving in a downward direction while new hires are inching back up.
- A review of the third quarter (July-September) shows over 55,000 unduplicated internet job postings for Maine. Among the top 20 industries posting jobs, social assistance, hospitals, insurance carriers and related activities, food service and drinking places, and ambulatory health care services are the industries with the most job postings.
- In the third quarter, retail salespersons, with 2,225 job postings, was the single largest occupation category that Maine employers were seeking to hire. This was followed by customer service representatives, wholesale and manufacturing sales representatives, and frontline supervisors of retail sales workers, many of which are high turnover occupations.
- Registered nurses have consistently ranked as one of the top occupations for job postings. With 2,178 postings this quarter, registered nurses are once again an occupation that stands out among the top 20 occupations. Other health care related occupations include medical and health services managers with 965 job postings and personal care aides with 712 postings.
- The modern workplace demands a high degree of interaction, requiring communication and coordination skills. Maine employers consistently call for these skills in the jobs they post. Also, most job postings include an emphasis on business environment skills that stress fundamental behaviors in the workplace such as compliance with work rules, timeliness, and proper attire.

- For job postings with a specific degree listed, business administration and management is at the top of the list with 1,132 job postings requiring such degrees. There are 591 postings seeking computer science degrees. Social work and clinical counseling and applied psychology degrees combined appear in 732 postings. Significant numbers of job postings listing degree requirements for engineering (352, including mechanical engineering and computer engineers), biological sciences (118), environmental science (54) and geological and earth sciences (36) are on the list.

**Please note that there are limits to online job postings data.** Online job postings are not synonymous with job vacancies, as the number, composition, and distribution of postings by occupation or industry do not necessarily represent the marketplace of job openings. In spite of these limitations, online job postings can be used as one of multiple economic indicators to evaluate large trends, provide insights into demand for certain occupations, and identify the types of employers or industries which are advertising. These limitations are explained more fully in the first report in the series.

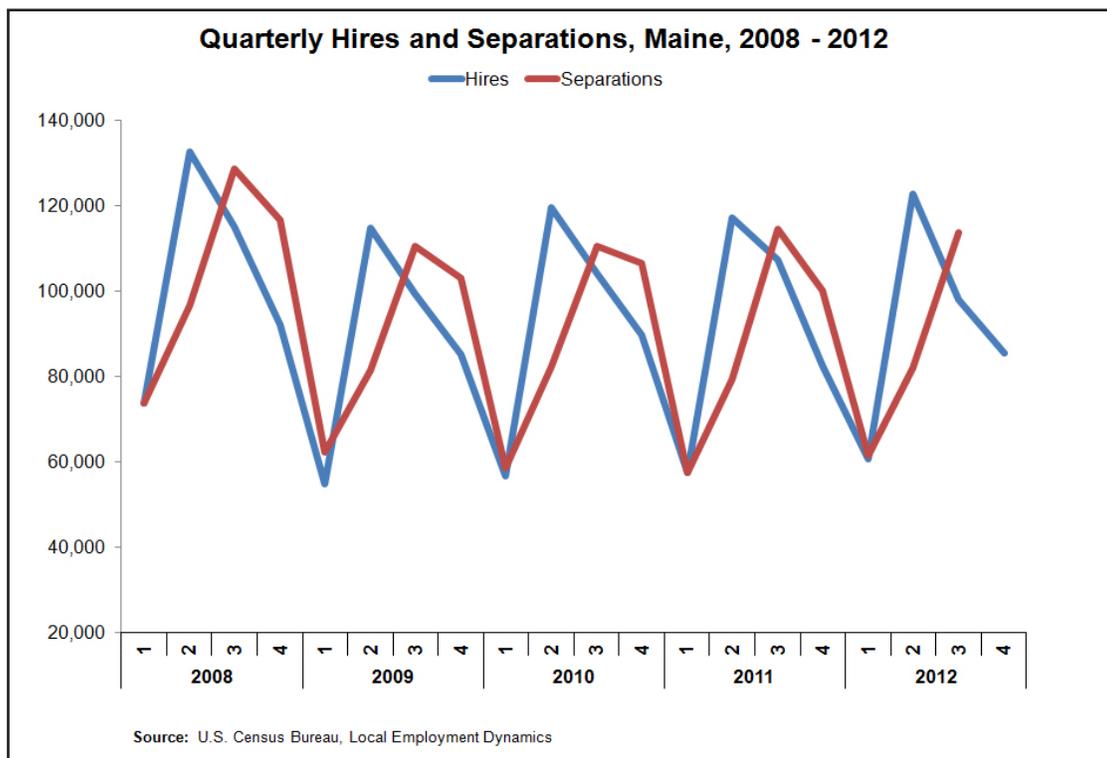
**I. Labor Market Continues to Churn Hires and Separations**

While Maine’s total employment has not returned to 2008 levels, there continues to be significant activity in the labor market reflected by data sources that are not typically presented in the media. The jobs numbers most typically reported are net jobs gained or lost. These numbers mask the “churn” in the labor market best represented by the number of hires and separations. While some of this churn is due to the seasonal nature of hiring activity or certain cyclical patterns of employment, the data also provides an indication of structural changes in the economy. When the labor market is stronger, there is much more churning.

The following table examines “Hires” and “Separations” of workers in Maine on a quarterly basis from the beginning of the recession through the first three quarters of 2012. Hires are the total number of accessions, including seasonal workers returning and new hires. Separations are the total number of workers who were employed by a business in the current quarter, but not in the following quarter.

The data indicates that hires have been slowly on the increase since the end of the recession and worker separations are declining. For the four quarters ending September 2012, the average number of hires stood at 91,000 and separations were at 89,300. These actions represent a significant volume of labor market transactions that, when studied in greater depth, provide insights about the labor market. We encourage those interested in learning more about these dynamics to visit <http://lehd.ces.census.gov/> to explore the following questions which will be addressed in future reports in this series:

- What industries are hiring the most workers? Which are hiring older or younger workers?
- What geographic areas are doing the most hiring?
- What workers are leaving jobs? Which industries are they leaving?



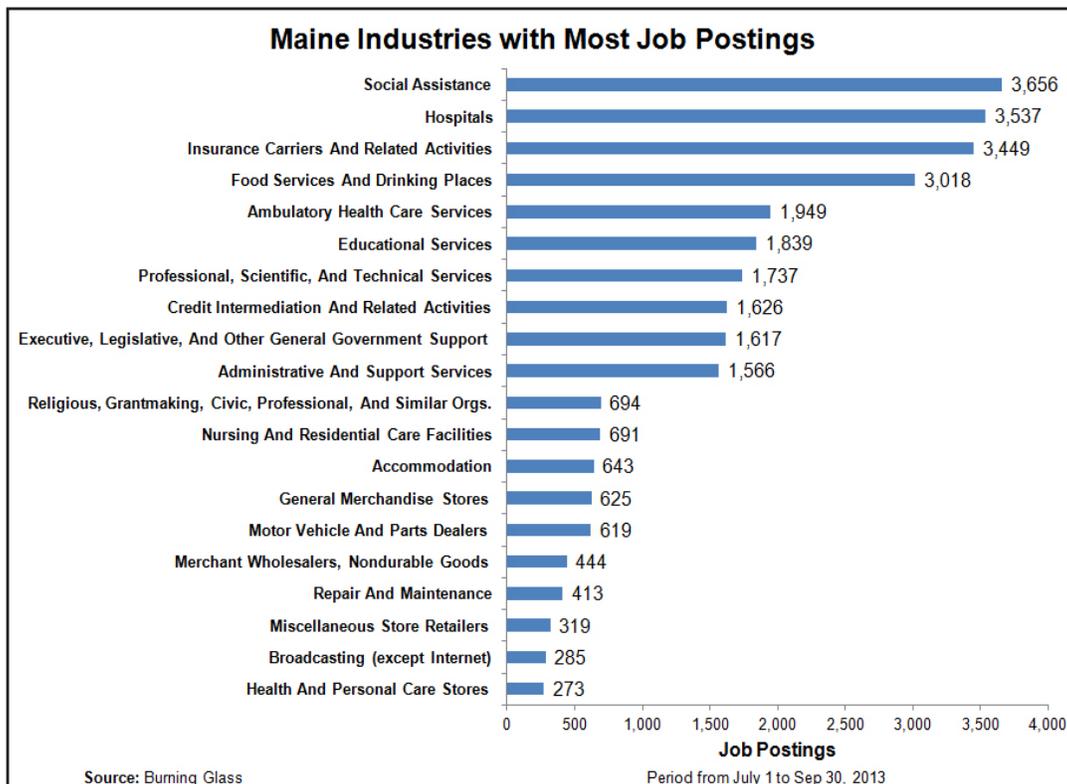
**II. Real Time Job Postings: Employers, Occupations, Skills, and Certifications**

Labor market information is critical to improving job placement outcomes and workforce development strategies. Knowing what firms are hiring by occupation, skills, and credentials are critical inputs for job seekers, job developers, and career counselors. Increasingly, labor markets have become digital as employers post jobs and job seekers post resumes on the internet. The digital labor market has become a rich and timely source of data about current job opportunities and labor market developments.

Real time labor market information (LMI) is an important innovation in producing timely and relevant information about the current labor market. Real time LMI is produced from scanning and aggregating job postings found across the internet. These postings represent expressed needs of employers and include detailed information about the job and related requirements. These data sets are aggregated daily from thousands of sites including public and private job boards, social media sites, newspaper advertisements, and other sources where jobs might be posted.

**Sizing Up Maine’s Labor Market with Job Postings Data**

Maine’s labor market has shown signs of improvement in 2013 based on growth in payroll employment. As employers hire more workers, they will also step up advertising and recruitment efforts. A review of the third quarter (July-September) shows over 55,000 unduplicated internet job postings for Maine.



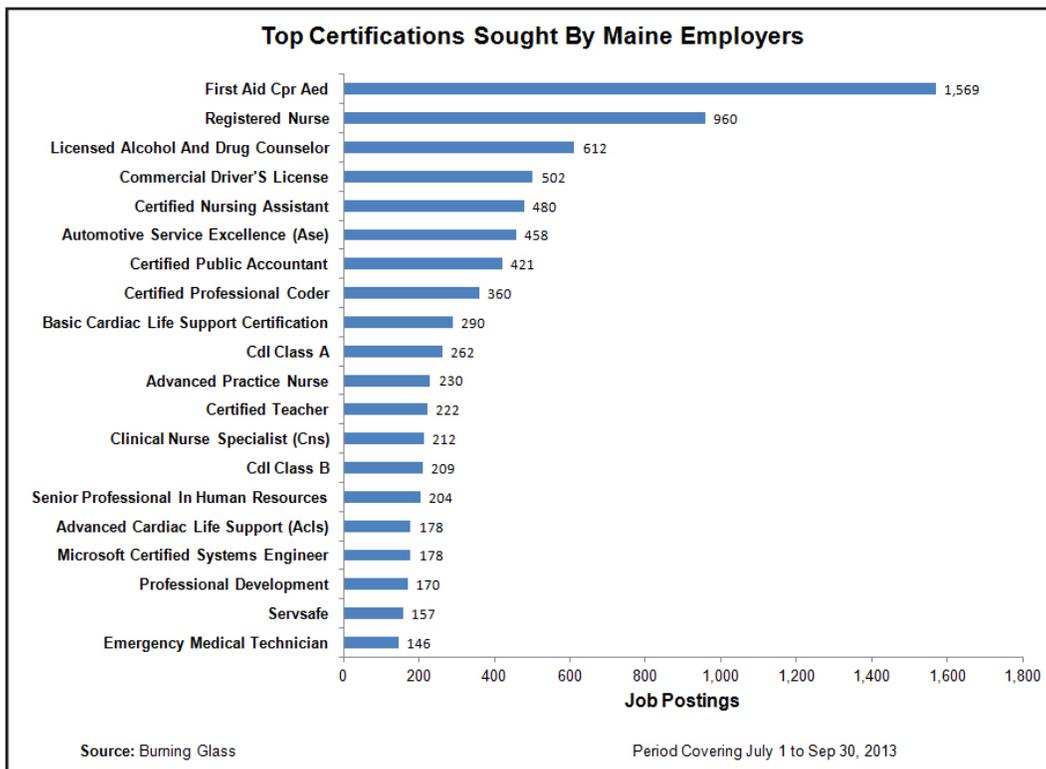
Among the top 20 industries posting jobs, social assistance, hospitals, insurance carriers and related activities, food service and drinking places, and ambulatory health care services have the most job postings. Professional, scientific and technical services also reported significant job postings for this period. This industry has some of the most highly educated and well-paid workers. As this workforce continues to age and head towards retirement, there will be significant replacement needs.



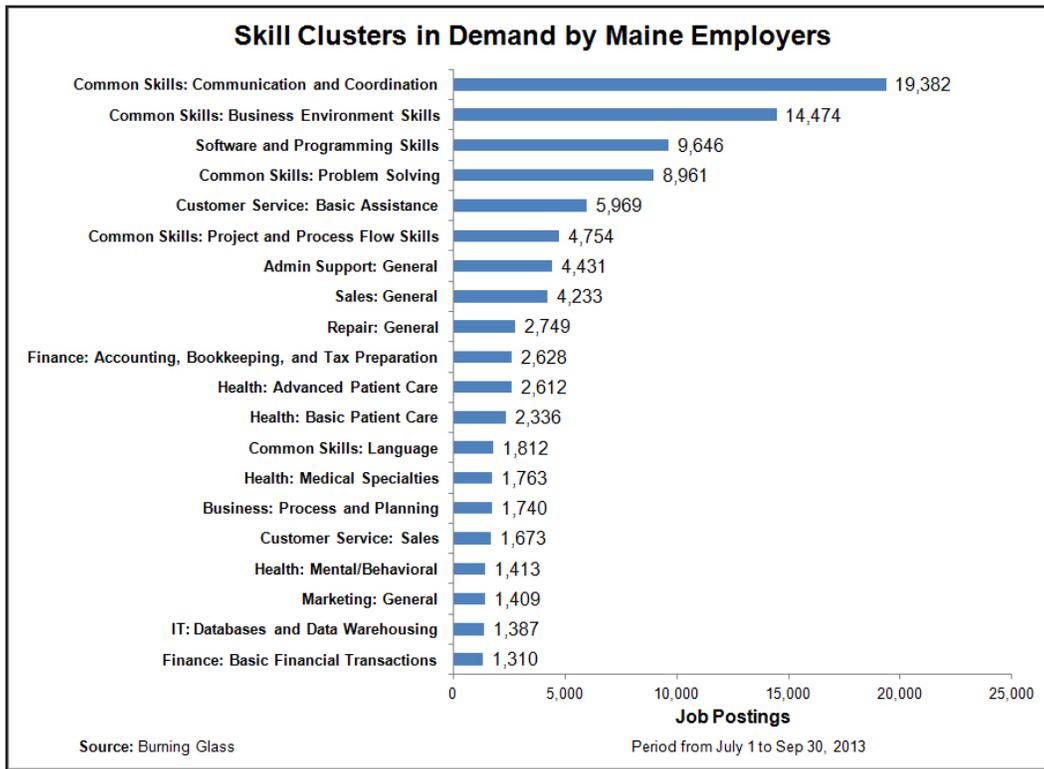
Retail salespersons, with 2,225 job postings, is the single largest occupation category that Maine employers are seeking to hire. This category is closely followed by registered nurses and customer service representatives. Next are wholesale and manufacturing sales representatives, heavy and tractor trailer drivers, and frontline supervisors of retail sales workers.

Not all sales jobs are created equal. Increasingly, sales professionals promoting sophisticated manufactured products and systems or supporting professional services may be required to have college degrees or be qualified engineers. These jobs typically offer higher pay levels.

Registered nurses had 2,178 postings this quarter and has consistently ranked as one of the top occupations for job postings. Other health care related occupations include medical and health services managers with 965 job postings and personal care aides with 712 postings. Registered nurses and health services managers typically require bachelor's degrees or better. Also, as health care services make increasing use of advanced technology and data systems, the skill requirements for these jobs should steadily increase over the next few years.



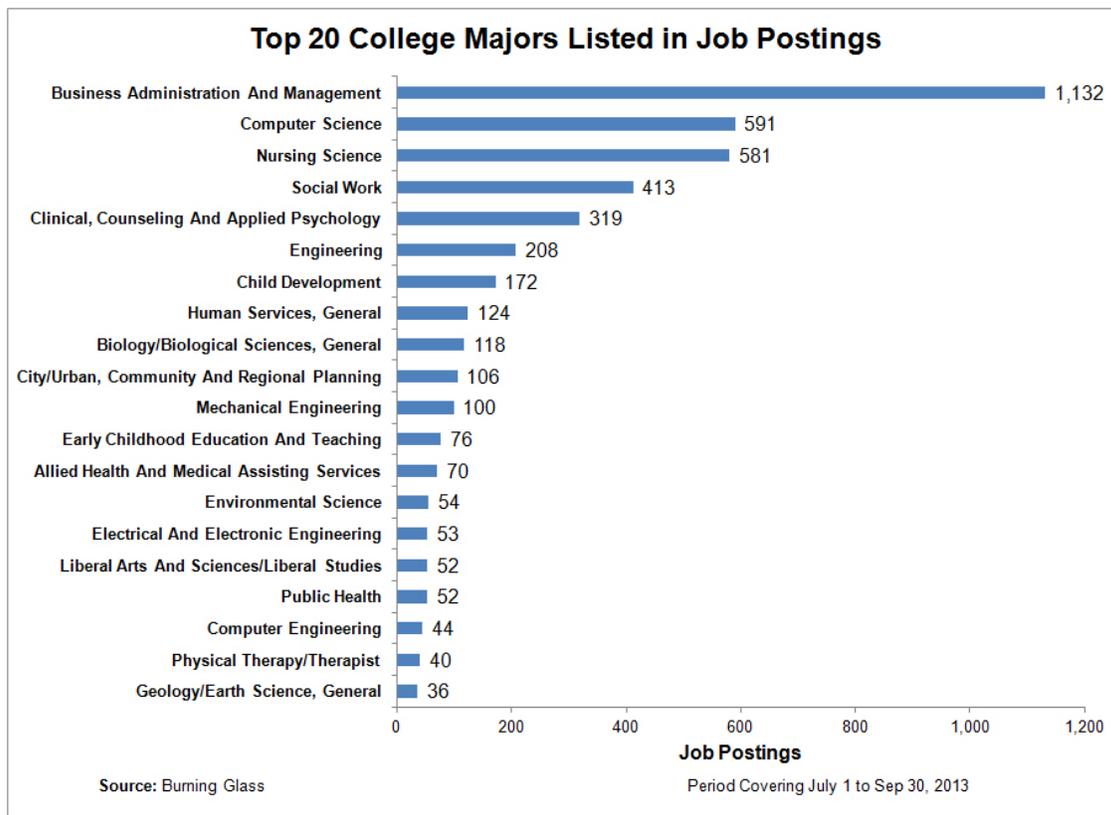
Certifications are a growing development in the labor market. Employers have turned to certifications as conditions of hire and job entry as they seek more workers with validated skills and proof of competency. Certifications related to health services specialties are the most common type found in job postings. There are also certification requirements for truck drivers, automotive repair technicians, accountants, teachers, human resource specialists, and engineers. Job seekers and education and training planners will need to increasingly keep up with this rapidly evolving labor market development to ensure employment qualification.



Maine employers overwhelmingly call for the communication and coordination skills required for the high degree of interaction demanded in the modern workplace in the jobs they post. Additionally, most job postings emphasize business environment skills that stress fundamental workplace behaviors such as compliance with work rules, timeliness, and proper attire. Employers consistently express frustration with deficiencies in these fundamental employability skills in some sectors and occupational categories, particularly among entry level workers.



The chart above illustrates the job experience most often advertised by employers in online job postings during the third quarter. Repair experience and sales experience top the list.



Of the 55,400 job postings reported for the quarter, only 4,986 (9%) specifically included degree type. The vast majority of postings do not include degree type. This, of course, does not mean that employers will not require or expect a degree from successful applicants. Instead, the listing of a specific degree type is an indication of the emphasis on this from employers.

For job postings listing a degree, business administration and management is at the top of the list with 1,132 job postings. There are 591 postings seeking computer science degrees. Social work and clinical counseling and applied psychology degrees combined appear in 732 postings. Significant numbers of job postings listing degree requirements for engineering (352, including mechanical engineering and computer engineers), biological sciences (118), environmental science (54), and geological and earth sciences (36) are on the list. These are jobs that pay well and offer career advancement. Maine colleges and universities preparing business and management professionals, computer science specialists, social workers and clinical specialists, and engineers and scientists should take note of this information as well as longer term trends to increase the future employability of students and ensure the future availability of qualified workers for these critical positions.

## Acknowledgements

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## About the Maine Development Foundation

The Maine Development Foundation (MDF) is a private non-partisan membership organization that drives sustainable, long-term economic growth for the State of Maine. MDF's strategic focus is a productive workforce. We believe that a productive worker is one that is educated, healthy, innovative, and engaged in their community and the economy.

MDF stimulates new ideas, develops leaders, and provides common ground for solving problems and advancing issues by:

- **Empowering** leaders
- **Strengthening** communities, and
- **Guiding** public policy with trusted economic research

Created in statute in 1978, MDF is a unique and trusted nonprofit. MDF works statewide across all sectors in a strictly non-partisan manner.

## Citing Information in This Report

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**Appendix: About the Data**

**Real Time Job Postings Data**

This report’s real time job postings data is obtained using Burning Glass Technologies’ Labor/Insight™ tool, an interactive, report-generating application that gives users real-time access to a comprehensive database of demand (jobs) data. It is powered by Burning Glass’ unique technology for jobs data aggregation, parsing, extraction, and analysis, which translates free text job postings into actionable intelligence on the nature and content of employer demand. Labor/Insight™ pieces together a comprehensive picture of national and local hiring activity, achieved by scouring over 17,000 web sources, including job boards, larger employers, and the small businesses that have been driving recent economic recovery. The result is a database, updated daily, of millions of currently available jobs from every region in the nation.

Burning Glass uses advanced artificial intelligence technologies. Using a branch of artificial intelligence called Statistical Natural Language Processing (SNLP), Burning Glass has developed a patented approach to parsing and data extraction, mining the text of each job posting to extract and code a significantly expanded data record, including:

<ul style="list-style-type: none"> <li>• Job function (O*NET)</li> <li>• Employer industry (NAICS)</li> <li>• Location (geo-coordinates, MSA, LMA)</li> <li>• Educational requirement (degree, level, major)</li> <li>• Source</li> <li>• Common and Specialized Skills (using a multi-level, hierarchical and fully customizable skills dictionary of over 15,000 skills)</li> </ul>	<ul style="list-style-type: none"> <li>• Duration and level of experience</li> <li>• Plurality (i.e. does this represent just one job?)</li> <li>• Normalized salary</li> <li>• Intermediation (i.e. was this posted by a recruiter?)</li> <li>• Required certifications or licenses</li> <li>• Green? (based upon actual skills or work activities referenced in the job ad)</li> </ul>
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In total, Burning Glass’ parsing technology can extract, derive, and infer more than 70 data elements from any given free-text job listing. When this technology is applied to a database of more than 7 million online job openings updated daily from over 17,000 job boards, newspapers, and employer sites, the result is a comprehensive, detailed, and actionable repository of real-time demand data in the industry today.

