Real-time Labor Market Analysis of Growing Demand for Coding Skills

August 15, 2016
Burning Glass: Our Mission and Services

1. We help **learners and workers** move into and up within their careers

2. We help **academic institutions and learning companies** identify, develop, and articulate the value of programs and content

3. We help **employers** fulfill and plan for their talent needs

4. We deliver high value job market research and **thought leadership**
We assemble raw data and drive it to practical insight

Our core big data engine aggregates job market data, analyzes job market patterns, and delivers actionable insight.

**Capturing job market data**
We scan 40,000 sources daily, capturing job postings from job boards, corporate sites, and other sources, along with a vast store of resumes. We track 5.4 million active, unique job openings.

**Tagging and structuring**
We add a common structure of metadata across all the elements in this data warehouse, covering more than 70 elements to permit in-depth analysis.

**Translating to a common language**
A proprietary taxonomy allows those across the job market to communicate. Our natural language artificial intelligence translates disparate terminology into a common language of jobs, skills, and qualifications, paving the way for valid comparisons.

**Drawing conclusions**
Our advanced AI engine leverages this common vocabulary to conduct sophisticated pattern analysis, providing granular insight into skills in demand and real-life career transitions.
CODING IS BECOMING THE KEY TO HIGH PAYING CAREERS – NOT JUST IN TECH

Jobs and Coding Skills by Income Level

- **Bottom Quartile**: 100% jobs frequently requiring coding skills; 0% jobs not requiring coding skills
- **2nd Quartile**: 96% jobs frequently requiring coding skills; 4% jobs not requiring coding skills
- **3rd Quartile**: 90% jobs frequently requiring coding skills; 10% jobs not requiring coding skills
- **Top Quartile**: 51% jobs frequently requiring coding skills; 49% jobs not requiring coding skills

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JOBS REQUIRING CODING SKILLS GROWING FASTER THAN OTHER CAREER-TRACK JOBS

Coding jobs are projected to grow faster than other jobs over the next 10 years:

- **IT JOBS** requiring coding skills: 8.8%
- **All JOBS** requiring coding skills: 7.2%
- **Other career track JOBS**: 6.4%
CODING JOBS ARE AVAILABLE ACROSS MANY CAREERS

SCIENCE
Scientists use computer programming to analyze the results of their experiments.

DATA ANALYST
Data analysts use computer programming to analyze data and solve problems in business and finance.

INFORMATION TECHNOLOGY
IT professionals write software that is used for everything from creating apps to driving cars.

ENGINEERING
Engineers use programming to design and test new products and conduct research.

ARTS AND DESIGN
Designers use digital tools to create websites and design the physical products we buy.

CODING SKILLS IN DEMAND ACROSS SEVERAL CAREER AREAS
45% of jobs requiring coding skills not in traditional IT occupations.
31% OF ALL BA+ JOB OPENINGS IN 2015 REQUIRE CODING SKILLS

- All BA+ Coding Jobs: 6,037,876
- Other Career-Track Jobs: 13,533,964
CODING SKILL REQUIREMENTS IN EACH JOB GROUP

Importance of Programming Skills:

**Very High**
- **INFORMATION TECHNOLOGY**
  - General Programming Languages
    - Java, C++
  - Database & Business Intelligence
    - SQL, Oracle
  - Web Development
    - Javascript
  - Data Science
    - Hadoop, NoSQL, R

**High**
- **DATA ANALYSIS**
  - Data Management
    - Excel including Visual Basic and Macros
  - Database & Business Intelligence
    - SQL, Oracle
  - Data Science
    - Hadoop, NoSQL, R

**Moderate**
- **ENGINEERING**
  - Engineering Design
    - Computer Aided Design
  - Computer Aided Manufacturing
    - Programmable logic Controllers, Computer Numerical Control machines
  - General Programming Languages
    - C++, Java

**Low**
- **ARTS & DESIGN**
  - Design Software
    - Photoshop
  - Web Development
    - Javascript, HTMLS

- **SCIENCE**
  - Statistical software
    - SAS, R
  - Mathematical Computing
    - Python, C++
TOP OCCUPATION GROUPS IN DEMAND
(JOB POSTING COUNTS AUG. 2015 – JULY 2016)

- Healthcare Practitioners
- Sales
- Computer and Mathematical
- Administrative Support
- Management
- Transportation and Material Moving
- Business and Financial Operations
- Food Services
- Installation, Maintenance, and Repair
- Architecture and Engineering

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### TOP 15 COMPUTER OCCUPATIONS NATIONALLY

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOFTWARE DEVELOPERS, APPLICATIONS</td>
<td>858,734</td>
</tr>
<tr>
<td>COMPUTER SYSTEMS ENGINEERS/ARCHITECTS</td>
<td>228,683</td>
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<tr>
<td>WEB DEVELOPERS</td>
<td>218,549</td>
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<tr>
<td>COMPUTER SYSTEMS ANALYSTS</td>
<td>206,608</td>
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<tr>
<td>COMPUTER USER SUPPORT SPECIALISTS</td>
<td>194,769</td>
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<tr>
<td>INFORMATION TECHNOLOGY PROJECT MANAGERS</td>
<td>194,702</td>
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<tr>
<td>NETWORK AND COMPUTER SYSTEMS ADMINISTRATORS</td>
<td>146,558</td>
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<td>DATABASE ADMINISTRATORS</td>
<td>145,037</td>
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<td>INFORMATION SECURITY ANALYSTS</td>
<td>124,898</td>
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<tr>
<td>BUSINESS INTELLIGENCE ANALYSTS</td>
<td>117,407</td>
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<tr>
<td>SOFTWARE QUALITY ASSURANCE ENGINEERS AND TESTERS</td>
<td>113,315</td>
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<tr>
<td>COMPUTER NETWORK ARCHITECTS</td>
<td>91,486</td>
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<tr>
<td>COMPUTER PROGRAMMERS</td>
<td>80,463</td>
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<td>DATABASE ARCHITECTS</td>
<td>33,813</td>
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<tr>
<td>DATA WAREHOUSING SPECIALISTS</td>
<td>28,074</td>
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</tbody>
</table>

### TOP 15 COMPUTER OCCUPATIONS IN THE DC METRO AREA

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Count</th>
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<tbody>
<tr>
<td>SOFTWARE DEVELOPERS, APPLICATIONS</td>
<td>54,305</td>
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<tr>
<td>COMPUTER SYSTEMS ENGINEERS/ARCHITECTS</td>
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<td>NETWORK AND COMPUTER SYSTEMS ADMINISTRATORS</td>
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<td>COMPUTER SYSTEMS ANALYSTS</td>
<td>12,227</td>
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<td>INFORMATION TECHNOLOGY PROJECT MANAGERS</td>
<td>11,280</td>
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<td>WEB DEVELOPERS</td>
<td>11,112</td>
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<td>COMPUTER USER SUPPORT SPECIALISTS</td>
<td>9,859</td>
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<td>DATABASE ADMINISTRATORS</td>
<td>9,142</td>
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<td>COMPUTER NETWORK ARCHITECTS</td>
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<td>SOFTWARE QUALITY ASSURANCE ENGINEERS AND TESTERS</td>
<td>5,325</td>
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<td>BUSINESS INTELLIGENCE ANALYSTS</td>
<td>5,274</td>
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<td>COMPUTER PROGRAMMERS</td>
<td>3,257</td>
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<td>DATABASE ARCHITECTS</td>
<td>2,481</td>
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<td>DATA WAREHOUSING SPECIALISTS</td>
<td>2,151</td>
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For more information, contact:

Susan Goldberger  
Senior Product Advisor  
t +1 (617) 694-8872  
sgoldberger@burning-glass.com