Industry Data

Employer desirability

The group listed Full Stack Developer, Quants Engineer, Front End Developer, Penetration Tester and Database Architect as our ideal jobs.

The table below shows how our chosen roles rank within the scope of the Burning Glass Top Job Titles March 2017 – Feb 18 dataset.

|  |  |  |
| --- | --- | --- |
| Front End Developer | 6th | 0.61% |
| Full Stack Developer | 17th | 0.29% |
| Data Architect | 47th | 0.14% |
| IT Business Analyst | 63rd | 0.10% |
| Security Consultant | 80th | 0.09% |

It is worthy of note that the Job Title dataset has not been manipulated and these numbers under-represent some of the jobs. Full Stack developer sees additional categories further down the list with Full Stack Java Dev ranked 70th, Full Stack .Net dev ranked 72nd and Senior Full Stack dev ranked 90th. Rolling these additional Full Stack roles into the one grouping would see Full Stack Development rise to the 10th Rank. Including Front End Web Developer & Frontend Developer with Front End Developer would bring this role up to 2nd Rank after Solutions Architect. Similar observations could be made about the other roles on our list.

Moving to the Burning Glass Top Occupations data for the same period we see more consolidated data. In first place, with 24.15% of all job listings by occupation, is Software development / engineering. Cyber Security comes in at 13th with 2.39% of listings and Data Architect at 18th with 1.24%. Database Administration is in the 12th rank and could reasonably be compiled with Data Architect producing an effective rank of 8th in the listings. Quants Engineering’s closest match in the data would be Business Intelligence Dev in 21st rank.

Key Skills

Drawing from Seek’s career advice key skills listings the table below outlines key IT skills required for the selected roles. There is surprisingly little overlap.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skills | Front End Developer | Full Stack Developer | Database Developer | Quants Engineer (Data Analyst) | Penetration Tester |
| JavaScript Programming | 1 | 1.00% |  |  |  |
| CSS | 1 | 1.00% |  |  |  |
| Angular | 1 | 1.00% |  |  |  |
| Typescript Programming | 1 | 1.00% |  |  |  |
| HTML | 1 |  |  |  |  |
| Front End Development | 1 |  |  |  |  |
| UI | 1 |  |  |  |  |
| Git Version Control System | 1 |  |  |  |  |
| React.JS | 1 | 1 |  |  |  |
| Sass | 1 |  |  |  |  |
| C# Programming |  | 1 | 1 |  |  |
| Node.JS |  | 1 |  |  |  |
| AWS |  | 1 | 1 |  |  |
| .Net Core |  | 1 |  |  |  |
| API |  | 1 |  |  |  |
| T-SQL |  |  | 1 |  |  |
| Microsoft SQL Server |  |  | 1 |  |  |
| Stored Procedures |  |  | 1 |  |  |
| Database Design |  |  | 1 |  |  |
| Database Development |  |  | 1 |  |  |
| PI/SQL |  |  | 1 |  |  |
| MySQL |  |  | 1 |  |  |
| Performance Tuning |  |  | 1 |  |  |
| Microsoft Power Business Intelligence |  |  |  | 1 |  |
| Tableau |  |  |  | 1 |  |
| Python Programming |  |  |  | 1 |  |
| Data Analytics |  |  |  | 1 |  |
| Data Visualisation |  |  |  | 1 |  |
| Mathematics |  |  |  | 1 |  |
| Data Science |  |  |  | 1 |  |
| Data Warehousing |  |  |  | 1 |  |
| Data Modelling |  |  |  | 1 |  |
| Computer Science |  |  |  | 1 |  |
| Penetration Testing |  |  |  |  | 1 |
| Mobile App |  |  |  |  | 1 |
| Web Applications |  |  |  |  | 1 |
| Web API |  |  |  |  | 1 |
| Reverse Engineering |  |  |  |  | 1 |
| Cryptography |  |  |  |  | 1 |
| Cyber Security |  |  |  |  | 1 |
| Ethical Hacking |  |  |  |  | 1 |
| Java Programming |  |  |  |  | 1 |
| Information Security |  |  |  |  | 1 |

General Skills

Falling short of trawling through numerous job advertisements, required general skills are somewhat harder to identify on a role by role basis, however there are many papers pointing towards the great significance of general skills in relation to employability within the ICT sector.

Anicic and Buselic identified rapid knowledge acquisition to be the most sought after generic skill by employers followed by the capacity to identify and resolve problems, to apply knowledge in practical situations, to work in a team, to think analytically, personal responsibility, adaptability, creativity, ability to work under pressure and ability to work independently. (Anicic and Buselic 2021)

Robles identifies integrity, communication, courtesy, responsibility, social skills, positive attitude, professionalism, flexibility, teamwork, and work ethic as the top 10 ‘soft’ skills sought after by executives in new employees. (Roubles 2012)

Stevens points towards communication skills with an emphasis on verbal communication and public speaking. (Stevens 2005)

Specific skills requirements of employers.

The most in demand IT skill according to the Burning Glass data is SQL. From the top 15, SQL, JavaScript, Java, C#, .NET, Git, Python and HTML all fall into our required skill set (8 of 15). The lowest ranked of the IT skills on our required skills list is C#, ranked 172nd

In the general skills category, Communication skills take the top rank, included in 36.4% of job listings, followed by problem solving (13.5%), organisational skills (13%), writing (12.8%), collaboration (11.8%), troubleshooting (9.4%) and planning (9.3%) in descending order. All of these skills featured prominently in the articles considered above. Contrary to Anicic and Buselic’s findings, being a quick learner is ranked 27th in the burning glass data, appearing in only 1.42% of job listings.

All the members of our group are interested in programming based roles however, according to the Burning Glass Data other technical skills are also highly sought after. The three highest ranked technical skills that do not occur in our required skills set are Microsoft Windows, SAP and Graphic Design.

Conversely the general skills list sees comprehensive coverage. There are no highly ranked general skills that do not fall into the scope of our required skill set.

While none of us are inclined to realign their intent for an ideal job, we were all struck by the weight of emphasis placed on ‘soft’ skills in relation to employability. In the course of this research it has become clear that while technical skills may get you the interview, it is your soft skills that will get you the job over your competitors, no matter what specific role you are aiming for.

Robles, Marcel M. “Executive Perceptions of the Top 10 Soft Skills Needed in Today’s Workplace.” Business communication quarterly 75.4 (2012): 453–465. Web.

Stevens. “What Communication Skills Do Employers Want? Silicon Valley Recruiters Respond.” Journal of employment counseling. 42.1 (2005): 2–9. Web.

Anicic, Katarina Pazur, and Vjeran Buselic. “Importance of Generic Skills of ICT Graduates-Employers, Teaching Staff, and Students Perspective.” IEEE transactions on education 64.3 (2021): 245–252. Web.