Choosing a Career in Tech:

Three Paths

An Assessment of the Benefits and Downsides of

Three Major Tech Career Paths

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# **Introduction**

If you’re considering a job in technology, the number of possible career paths can be overwhelming. Adding to the difficulty of your decision are the loose definitions often used to reference job divisions within tech. This article will attempt to simplify things by focusing on three of the most popular tech jobs—software developer, information security analyst, and data scientist. Software developers use coding to create applications required by their company. Information security analysts work in what’s most commonly known as cybersecurity. Data scientists use various tools to find patterns in data gathered by their organization.

By comparing each position’s current working conditions and future outlook, this article will help you make a more knowledge-based decision if you decide to start a career in tech. The criteria used to assess each position are as follows:

* Median salary
* Number of current positions
* Expected job growth from 2021 to 2031
* Unemployment rate
* Flexibility of working conditions
* Stress level
* Coding skills required

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# **Comparisons**

## Median Salary

Median salary is defined as the salary that falls in the 50th percentile of all jobs in a specified field. Software developers have the highest median salary of the three careers, with a median salary of $120,730. Information security analysts come in second with a median salary of $102,600, and data scientists are third, with a median salary of $100,910.

## Number of Current Positions

Number of current positions refers to the number of people currently employed in a specified field. With 370,600 current positions, software developers again come in first. Information security analysts have 56,500 current positions, and data scientists have 40,500.

## Expected Job Growth from 2021 to 2031

This category estimates how many new positions—calculated as a percentage of current total positions—will be created between 2021 and 2031 in each field. Data science is first, with expected job growth of 36% in the relevant decade, while information security analysts can expect just slightly slower job growth at 35%. The estimate for software developers is 25%, which—although lower than data science and information security—is still considered “much faster than average” by the U.S. Bureau of Labor Statistics.

## Unemployment Rate

Unemployment rate in this context refers to the percentage of workers within a profession unable to find work in their field. Contrary to the previous three categories, a higher position here is considered negative. With an unemployment rate of 10%, data science comes in first. Software developers have a significantly lower rate of 1.2%, but information security analysts come in even lower at 0.8%.

## Flexibility of Working Conditions

This is a more subjectively measured category than those above and is calculated using feedback from professionals working in each field. Flexibility of working conditions is based primarily on an ability to work alternative schedules and a robust work-life balance. Both software developers and data scientists enjoy an “above-average” flexibility rating. Information security analysts are the outlier here, with a “below-average” flexibility rating.

## Stress Level

This is another subjective, feedback-based category—in this case, it measures the level of stress inherent to each position. As with the flexibility category, information security analysts come out poorly here with an “above-average” stress rating. Software developers and data scientists tie again, with “average” stress ratings.

## Coding Skills Required

Some tech job-seekers are interested in learning how to code for their potential careers; others would prefer to avoid it. This is the one category explored here where the result isn’t necessarily good or bad. It simply depends on what you want out of your job. Software developers use the most code of the three careers—indeed, it’s at the core of what they do. Data scientists also use code, but the breadth of coding knowledge necessary is more limited. Some information security analysts require coding abilities, but it’s not necessarily a requirement for the field. If you’re strongly adverse to the thought of developing in-depth coding skills, this is the position for you.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Software Developer** | **Information Security Analyst** | **Data Scientist** |
| Median Salary | $120,730 | $102,600 | $100,910 |
| Number of Current Positions | 370,600 | 56,500 | 40,500 |
| Expected Job Growth (2021 to 2031) | 25% | 35% | 36% |
| Unemployment Rate | 1.2% | 0.08% | 10% |
| Flexibility of Working Conditions | Above-average | Below-average | Above-average |
| Stress Level | Average | Above-average | Average |
| Necessary Coding Skills | High | Low to Moderate | Moderate |

Table 1. Breakdown of job-relevant criteria for software developers, information security analysts, and data scientists.

# **Conclusions**

The following breakdown looks at the criteria explored above in a more holistic manner:

1. Software development is the clear winner when it comes to median salary and number of current positions. Not only do software developers earn more, there are more total opportunities in the field.
2. Although software developers do lag behind information security analysts and data scientists in the expected job growth category, it’s important to remember that this category is measured as a percentage of current positions. If you calculate the total number of jobs expected to be created in each field, software developers actually come out ahead at 92,650, compared to 19,775 for information security analysts and 14,580 for data scientists.
3. At 10%, data scientists are a clear loser in the unemployment category. Information security analysts have a small advantage over software developers, but given the much higher number of current positions in software development, this advantage could be interpreted as insignificant.
4. In the subjective categories of flexibility of working conditions and stress levels, information security analysts perform poorly. Software developers and data scientists received the same rating in both categories.
5. The final category of coding skills required can only be factored into this analysis on a personal basis. Someone looking for a coding-heavy job should lean towards software developer. Someone looking for less coding should lean towards information security analyst.
6. Software developer is the winner or tied for the winner in almost every category, the two exceptions being unemployment rate and expected job growth measured as a percentage. In the former case, software developer comes in a very close second to information security analyst; in the latter case, software developer transforms into the winner when expected job growth is calculated in absolute terms.

# **Recommendation**

Software developer comes out far ahead of information security analyst and data scientist as a career path in tech. Compared to the other two fields, software developer pays more, there are more current positions, and there will likely be more absolute positions created over the next decade. Information security analyst and data scientist fare more or less equally as possible career paths. Pay and growth outlook are similar, and although data scientists face a higher unemployment rate, information security analysts are more stressed and have less flexible working conditions.

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