

Silicon Valley job market today &
required skills for (big) data analytics

What is Silicon Valley?

SILICON VALLEY



SV Jobs for (big) data analytics

- **Data Analyst:** To identify, capture, manage, and analyze the County's data to provide data analysis including the conceptualization, modeling and presentation of data.
- **Data Engineer:** To build and maintain data processing systems and pipelines that combine core data sources into accessible structures (e.g. data warehouses, data marts, data lakes, etc.) to support reporting and analytical systems; to collect, store, and clean data to make it available to Data Analysts, Data Scientists, or Business Intelligence Analysts who can easily query the data.
- **Data Scientist :** To model complex problems, discover insights and identify opportunities, through the use of statistical, algorithmic, mining and visualization techniques.
- **Information Architect:** To analyze and translate business information and technical requirements into an information and data architectural blueprint for the IT system.
- **Business Intelligence Analyst :** To gather, review, and interpret applicable data and analytical needs; to define, implement and ensure existing analytical applications and reports are executable and functional; as well as anticipate trends, events and consequences of business changes and develop recommendations to management for increasing business intelligence and data driven decision making.
- **Big Data** (volume, variety, velocity).

SV PayScale

- **Business Intelligence Analyst - \$154K**
- **Data Analyst - \$172K**
- **Data Engineer - \$180K**
- **Information Architect - \$200K**
- **Data Scientist - \$210K**

Data Engineer sample req

- REQUIREMENTS

2+ years of Scala and/or Python development experience is necessary

2+ years of SQL (Oracle, Vertica, Hive, etc) experience is required

2+ years of experience in custom or structured (ie. Informatica/Talend/Pentaho) ETL design, implementation and maintenance

2+ years or experience applying statistical data analysis to real-life problems

Experience working with either a Map Reduce or a MPP system on any size/scale

BS or MS degree in Computer Science or a related technical field

Previous experience with Data ingestion and IR (information retrieval) is highly desirable

Industry experience as a Data Engineer or related specialty

BS/B.Tech./M.Tech in Computer Science, Math or related field

- A highly proficient programmer that can code complex algorithms that traverse multiple data structure types in highly optimized manner to be performant in a “big data” environment.
- Solid understanding and hands on experience with SQL, especially in the area of data aggregation
- Strong in one of the following areas -
- -Data modeling skills for both upstream operational systems and data warehouse fact / dimensional data modeling.
- -Distributed systems processing in the area of data ingestion and data distribution
- Experience with large data sets ideally in a presto / Hadoop environment
- Experience working with either a Map Reduce or a MPP system on any size/scale
- Can communicate clearly to engineering peers

Data Scientist sample req

- MINIMUM QUALIFICATIONS
- Degree in quantitative field (e.g. Computer Science, Engineering, Mathematics, Statistics, Operations Research or other related field)
- 2+ years of industry or graduate research experience solving analytical problems and building models using quantitative, statistical or machine learning approaches
- Experience with Machine Learning, Statistics, or other data analysis tools and techniques
- Experience performing data extraction, cleaning, analysis and presentation for medium to large datasets
- Experience with at least one programming language (i.e. Python, R, Java, or C++)
- Experience writing SQL queries
- Experience with scientific computing and analysis packages such as NumPy, SciPy, Pandas, Scikit-learn, dplyr, or ggplot2
- Experience with statistics methods such as forecasting, time series, hypothesis testing, classification, clustering or regression analysis
- Experience with data visualization libraries such as Matplotlib, Pyplot, ggplot2
- Experience with machine learning libraries and packages such as PyTorch, Caffe2, TensorFlow, Keras or Theano
- PREFERRED QUALIFICATIONS
- Advanced degree (Master's or PhD) in quantitative field
- Experience working with distributed computing tools (Hadoop, Hive, Spark, etc.)
- Proficiency in algorithmic complexity

Data Analyst sample req

- BA/BS in Computer Science, Math, Physics, Engineering, Statistics or other technical field
- 2+ years experience using SQL
- 2+ years experience building data reporting
- Experience with troubleshooting data pipeline/warehouse related issues
- Experience with analyzing data to identify deliverables, gaps and inconsistencies
- Experience with identifying and communicating data driven insights
- Experience with prioritizing among conflicting demands

PREFERRED QUALIFICATIONS

- Experience using languages and packages such as Python, R, MATLAB, SPSS, SAS, Stata, etc.
- Experience with large data sets and distributed computing (Hive/Hadoop)
- Experience using Tableau

Intelligence Business Analyst sample req

- MINIMUM QUALIFICATIONS
- Bachelor's degree in an analytical field (e.g. Marketing/Marketing Science, Computer Science, Mathematics, Statistics, Finance or Economics)
- 3+ years' work experience, with 2+ years' of work experience in data analytics in a client facing role
- 2+ years' hands-on experience in SQL, or SQL and R
- Experience in data analytics and statistical programming with experience in using statistical tools such as SAS, SPSS etc.
- Experience with data visualization tools such as Tableau, Micro Strategy etc.
- Experience leading data driven projects from definition through interpretation and execution
- Analytical experience solving problems using data to provide practical business insights
- Communication experience including presentation experience
- PREFERRED QUALIFICATIONS
- Master's degree in an analytical field (e.g. Marketing/Marketing Science, Computer Science, Mathematics, Statistics, Finance or Economics)
- Background in digital media analytics
- Experience in Automotive, Financial Services, Restaurant industries and related media analytics
- PHP, HTML/CSS/XML/JavaScript, Python, VB and general programming skills
- Experience working with or in support of diverse communities

Data Architect sample req

- Are you an expert with RDBMS technologies including Oracle, SQL Server, Postgres, Mysql or MariaDB? Do you have deep expertise designing, implementing, and running a mission critical database for workloads including high performance transaction processing or analytics? Do you want to think big about how RDBMS's on AWS can power businesses to innovate faster? Would you like a career that gives you opportunities to help customers and partners use Cloud computing services to build new solutions, faster, and at lower cost?

At AWS, we're hiring highly technical database developers, administrators, and engineers to collaborate with our customers on building solutions in database, data management, and analytics. The Data Architect for RDBMS role requires deep technical expertise in the RDBMS technology, and how to various engines perform to meet the most challenging customer requirements. You'll have a background as an Developer, DBA or Engineer, and be passionate about getting the most from a database through query and performance tuning, stored procedures and functions, running diagnostics, and working with third-party tools. This expertise will be put to use advising customers on how to run the databases on AWS, and how to migrate existing environments to the Cloud, and how to optimise with the Relational Database Service (RDS). You'll perform sizing exercises, design migration architectures and procedures, and then work with AWS Professional Services to help customers manage the migration process. Once live, you'll be able to support customers with troubleshooting and ensuring high scalability and availability.

Roles & Responsibilities

- Understand customer requirements and existing environments, and translate these into configurations in AWS that meet performance, scalability, and availability needs.
- Advise customers on sizing, performance tuning and query optimization.
- Work with customers to plan migration of their database to RDS engines
- Help customers manage the conversion of stored procedures into the language for a new target engine, or to migrate business logic into applications.
- Help customers work with partners and AWS Professional Services to use the Data Migration Service, Schema Conversion Tool, and third-party data management engines during the migration process.
- Advise customers on troubleshooting and diagnostic activities as they run their databases on AWS.
- Extract best-practice knowledge, reference architectures, and patterns from these engagements for sharing with the worldwide AWS solution architect community.

BASIC QUALIFICATIONS

- Highly technical and analytical, possessing 10 or more years of Database and/or Analytics Systems development and deployment experience, IT systems and engineering experience, security and compliance experience, etc.
- Possess significant experience of software development and/or IT and implementation/consulting experience.
- Strong verbal and written communications skills are a must, as well as the ability to work effectively across internal and external organizations and virtual teams.
- Hands on experience as a database, data warehouse, big data/analytics developer or administrator.
- Implementation and tuning of Oracle, Mysql, Postgres or SQL Server databases at scale, including transaction processing and analytics. Experience of advanced deployment architectures such as read replicas and warm standby preferred.
- Experience of data migration techniques and process planning.
- Experience of working with complex and high performance stored procedures.
- Experience tuning databases including query tuning, performance optimization, and diagnostics gathering. Knowledge of foundation infrastructure requirements such as Networking, Storage, and Hardware optimization.
- BS level technical degree required; Computer Science or Mathematics background preferred.

PREFERRED QUALIFICATIONS

- Hands on experience leading large-scale global database, data warehousing and analytics projects.
- Track record of implementing AWS services in a variety of business environments such as large enterprises and start-ups.
- Demonstrated industry leadership in the fields of Database and/or Data Warehousing.
- Deep understanding of data, application, server, and network security
- Advanced technical degrees in computer science, software engineering, or mathematics.
- Working knowledge of modern software development practices and technologies such as agile methodologies and DevOps.
- AWS Certification, eg. AWS Solutions Architect, Developer, or SysOps Associate/Professional.

Required Skills for (big) data analytics

- SQL – RDBMS, HIVE, SPARK
- Programming – Python, R
- ETL – Informatica, SSIS
- Data Analytics Tool – Tableau, Power BI
- Data warehousing - Data modeling. (Ralph Kimball)
- Predictive analytics - data mining, predictive modelling, and machine learning.
- Cloud – AWS, Azure.
- RDBMS - Oracle, SQL Server, PostgreSQL

Q & A