

Making Sense of Data Roles

Data titles are messy, and no two companies use them the same way. This quick guide breaks down key data roles in plain English so you can hire the right talent and organize your team with confidence.

Engineering & Infrastructure	Analytics & Business Insights	Advanced Analytics & AI	Governance & Quality
These team members build and run the backend systems. They construct the pipes that move raw data around, clean up messy inputs, and store everything safely. Without them, your business data stays trapped in isolated tools and nobody can build reliable reports.	This group turns raw numbers into clear answers. They build dashboards, run reports, and look at past trends to explain what is happening across your products and sales. They help your team make daily choices using actual facts instead of personal guesses.	These specialists use heavy math and code to look ahead. They build software models that predict what customers will do next, automate tasks, and connect new artificial intelligence tools directly into your products. They turn simple data setups into smart tools.	This team keeps your information safe, clean, and legal. They write clear usage rules, check for missing records, and fix broken files before leaders see them. They protect you from costly privacy mistakes and ensure everyone trusts the final numbers.
Common Role Titles: • Data Engineer • Analytics Engineer • Database Administrator • Data Architect	Common Role Titles: • Data Analyst • Business Intelligence Developer • Product Analyst	Common Role Titles: • Data Scientist • Machine Learning Engineer • AI Engineer • Research Scientist	Common Role Titles: • Data Governance Analyst • Data Steward • Data Quality Analyst

Engineering & Infrastructure

Data Engineer

- **What they do:** They build and maintain the digital plumbing of your company. Data engineers write code that automatically collects raw information from your sales tools, websites, and databases, cleans it up, and sends it to a central storage system.
- **Value to the business:** Without them, your business data stays trapped in isolated systems. They make sure data flows reliably and quickly so your team isn't making decisions based on old or broken information.

Analytics Engineer

- **What they do:** They take the raw data brought in by data engineers and transform it into neat, organized tables. They write code that translates messy operational logs into clean business concepts like "Monthly Active Users" or "Net Revenue."
- **Value to the business:** They create a single source of truth. By organizing raw data into standard business definitions, they save everyone from arguing over whose spreadsheet has the right numbers.
- **Role note:** This is a newer job title in the data world. It was created to bridge the gap between traditional Data Engineers and Analytics teams. Analytics Engineers bring software engineering habits, like testing and code control, to the business dashboard world.

Database Administrator (DBA)

- **What they do:** They manage, secure, and fine-tune the servers where your data lives. They set up access controls, manage backups, and make sure your databases respond quickly when applications ask for data.
- **Value to the business:** They keep your core systems fast, online, and safe from data loss or security leaks. They prevent costly downtime.

Data Architect

- **What they do:** They design the overall master blueprint for how your company stores, connects, and scales its entire data environment. They pick the technologies, define how systems talk to each other, and plan for future growth.
- **Value to the business:** They prevent technical chaos. A good architect ensures you don't waste millions on software that doesn't scale or tools that can't integrate with each other.
- **Experience note:** This is a very senior individual contributor role. Candidates need several years of hands-on build experience across many different systems before they can design blueprints at this level.

Analytics & Business Insights

Data Analyst

- **What they do:** They dig into historical data to answer specific business questions. They build basic reports, spot trends, and explain what happened in your business last week, last month, or last quarter.
- **Value to the business:** They turn raw numbers into clear answers. They help team leads make everyday decisions backed by actual evidence instead of gut feel.

Business Intelligence (BI) Developer

- **What they do:** They build and maintain interactive dashboards and automated reports. They specialize in taking complex metrics and turning them into visual graphs that non-technical leaders can understand at a glance.
- **Value to the business:** They give leadership real-time visibility into company performance. Instead of waiting weeks for custom reports, leaders can check a dashboard instantly.

Product Analyst

- **What they do:** They focus specifically on how users interact with digital products, apps, or websites. They track feature usage, sign-up flows, and drop-off points in the user journey.
- **Value to the business:** They show product teams what users actually do versus what they say they do. This helps teams prioritize building features that drive actual usage and retention.

Advanced Analytics & AI

Data Scientist

- **What they do:** They use statistics and advanced math to find hidden patterns and predict future outcomes. Instead of just looking at past performance, they build models to forecast customer churn, sales trends, or demand.
- **Value to the business:** They help companies move from reactive reporting to proactive planning. This gives teams an early warning system for market shifts or changing customer behavior.
- **Experience note:** Requires strong mathematical and statistical foundations.

Machine Learning Engineer

- **What they do:** They take the statistical models built by data scientists and turn them into scalable, production-ready software. They write the heavy-duty code that lets a model run automatically for millions of users at once.
- **Value to the business:** They turn experimental ideas into live product features like recommendation engines or automated fraud detection.
- **Experience note:** This role requires deep software engineering skills alongside data science knowledge. It is rarely an entry-level position.

AI Engineer

- **What they do:** They build software features using existing pre-trained artificial intelligence models and large language models. They connect these AI tools directly into company workflows or customer apps.
- **Value to the business:** They let your business quickly adopt modern AI tools without spending millions of dollars building proprietary models from scratch.

Research Scientist

- **What they do:** They conduct deep research to create brand new algorithms and mathematical methods from scratch when standard off-the-shelf tools aren't enough.
- **Value to the business:** They give tech-first companies a major competitive advantage by inventing proprietary technology that competitors can't easily copy.
- **Experience note:** Highly specialized role that usually requires advanced technical degrees and years of academic or industrial research experience.

Governance & Quality

Data Governance Analyst

- **What they do:** They write and monitor the everyday policies for how company data is collected, shared, and stored. They track compliance with industry regulations and internal rules.
- **Value to the business:** They reduce legal risk, protect customer trust, and help the company pass regulatory audits smoothly.

Data Steward

- **What they do:** They act as the designated guardian for a specific domain of business data like sales, finance, or inventory. They enforce definitions, approve access, and fix data inconsistencies across departments.
- **Value to the business:** They bridge the gap between technical teams and business units. They ensure that departments actually trust the numbers they share.

Data Quality Analyst

- **What they do:** They run automated tests and continuous checks on company data assets. They hunt down missing records, duplicate profiles, and broken data formats before those errors reach business reports.
- **Value to the business:** They protect company leadership from making expensive strategic mistakes based on inaccurate or corrupted reports.

Data Team Skills Matrix

Role	Coding & Software	SQL, Pipelines & Storage	Math & Statistics	Business Acumen	Privacy & Rules
Data Engineer	Core	Core	Basic	Basic	Working
Analytics Engineer	Working	Core	Basic	Working	Working
Database Administrator	Working	Core	Basic	Basic	Core
Data Architect	Core	Core	Basic	Working	Working
Data Analyst	Basic	Core	Working	Core	Basic
BI Developer	Basic	Working	Basic	Core	Basic
Product Analyst	Basic	Working	Working	Core	Basic
Data Scientist	Core	Working	Core	Working	Basic
ML Engineer	Core	Core	Working	Basic	Basic
AI Engineer	Core	Basic	Working	Working	Basic
Research Scientist	Core	Basic	Core	Basic	Basic
Data Governance Analyst	Basic	Working	Basic	Working	Core
Data Steward	Basic	Working	Basic	Core	Core
Data Quality Analyst	Working	Core	Basic	Working	Core

Note: SQL knowledge is a foundational requirement across all data roles listed in this table, though the complexity of queries varies by position.

Coding & Software: Writing software using languages like Python, Java, or C++. It is all about building programs that run automatically without breaking.

Data Pipelines & Storage: Using SQL, databases, and tools that move data around. This is about pulling information from point A to point B.

Math & Statistics: Using heavy math to find patterns, build models, and test ideas. This is about running probability and statistical tests.

Business Acumen: Understanding how the business makes money, what managers care about, and how to talk to non-technical teams.

Privacy & Rules: Knowing data safety laws, access controls, and how to handle customer information without getting sued.

Our Advisory Services

How We Help Your Organization

- **Team Structure & Gap Analysis:** We look at your current team layout, find skill overlaps or missing pieces, and map out a practical plan aligned with your business goals.
- **Role Alignment & Job Descriptions:** We help you write clean, accurate job descriptions so you bring in candidates who match what your business actually needs.
- **Data Hiring Advisory:** We partner directly with your hiring leaders to review profiles, screen technical candidates, and make sure you hire with confidence.
- **Technical Leadership Assessments:** We evaluate your current technical leads and managers to pinpoint strengths, spot leadership gaps, and build tailored growth plans for your senior staff.
- **Data Culture & Literacy Workshops:** We run hands-on sessions for non-technical teams so your whole company learns how to read, question, and use data in their everyday work.

Signs You Need Support

- You need your first internal data team and aren't sure which role to post first.
- Your current team members keep stepping on each other's toes because roles aren't clear.
- You hired expensive advanced specialists when your real problem is simple data pipeline or report quality.
- Your leadership team gets different numbers from different spreadsheets every week.

Ready to Talk?

Let's discuss where your data team sits today and what you want to build next.

- [**Corporate Data Services:**](#) Learn how we help organizations design, structure, and staff their data teams.
- [**Book a Discovery Call:**](#) Schedule a 15-minute chat to discuss your current team layout and hiring needs.
- [**Connect with Amy on LinkedIn:**](#) Follow along for daily thoughts on data team strategy and leadership.
- [**Follow Company LinkedIn:**](#) Get updates on our latest workshops, corporate services, and resources.
- [**Visit Our Main Website:**](#) Explore our full range of data resources and tools.

Data Team Advisory & Corporate Services

Building an effective data organization takes more than hiring smart engineers. Teams struggle when job titles do not match operational reality, business definitions conflict, and non-technical stakeholders cannot communicate with technical staff. We partner with leadership teams to design, structure, and scale high-performing data organizations.

Corporate Advisory Focus Areas

- **Team Structure & Capability Audits:** Audit your current technical bench, eliminate role confusion, and design an organizational structure that supports business goals.
- **Role Scoping & Hiring Advisory:** Define accurate job specs, review candidate pipelines, and run structured technical screenings so you hire the right talent the first time.
- **Organizational Data Literacy:** Train non-technical business units, department heads, and executives to interpret metrics, question assumptions, and work effectively with data teams.
- **Technical Leadership Assessments:** Evaluate and mentor emerging engineering and data managers to build strong operational habits, team ownership, and executive presence.

Common Signs Your Organization Needs Advisory Support

- Different departments present conflicting metrics and revenue numbers in executive meetings.
- You hired specialized data scientists when your core bottlenecks are broken data pipelines and inconsistent dashboard reporting.
- Engineers, analysts, and business stakeholders spend more time arguing over data definitions than executing strategic projects.
- You need to hire your first data leader or team members and want to avoid expensive mis-hires.

Ready to Align Your Data Team?

Let us discuss your current team layout, hiring roadmap, and organizational data challenges.

- **Discovery Call:** [Schedule a Free 30-Minute Intro Call](#)
- **Corporate Consulting:** [Explore Corporate Advisory Services](#)
- **LinkedIn:** [Connect with Amy](#) | [Follow Company Page](#)