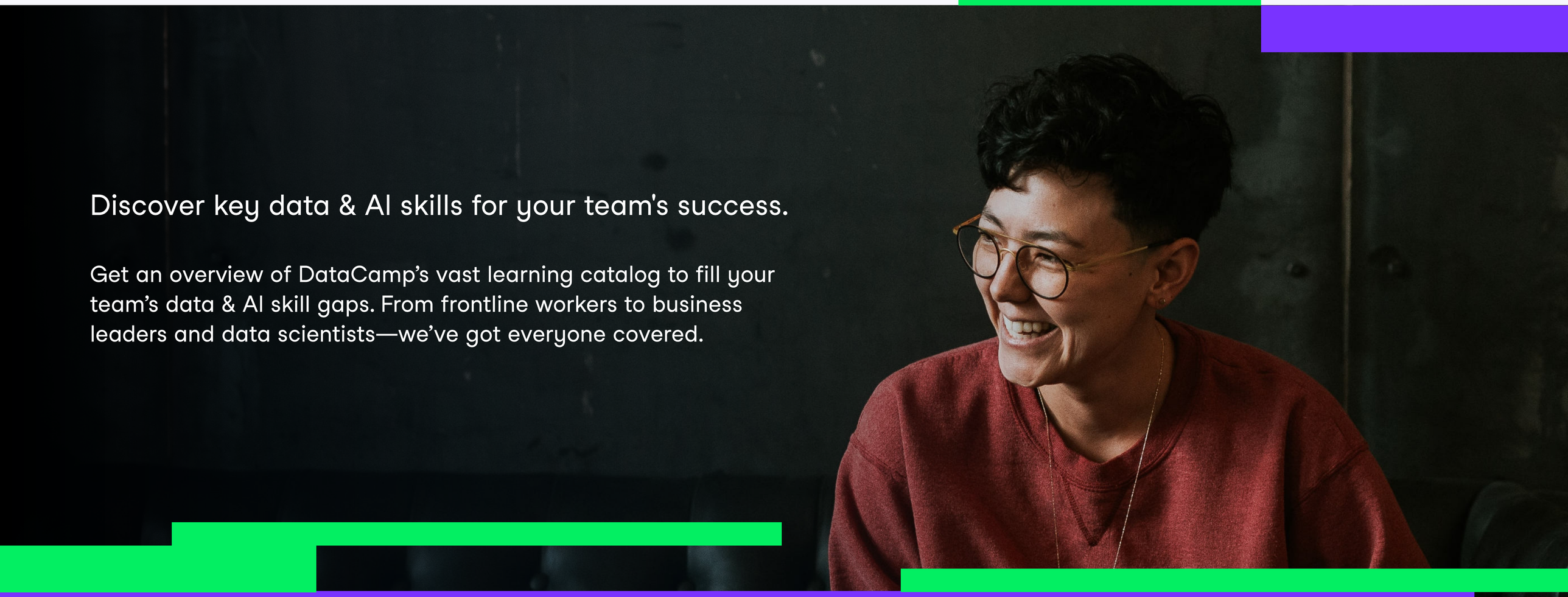
datacamp

Curriculum Cheat Sheet

For Every Skill Level



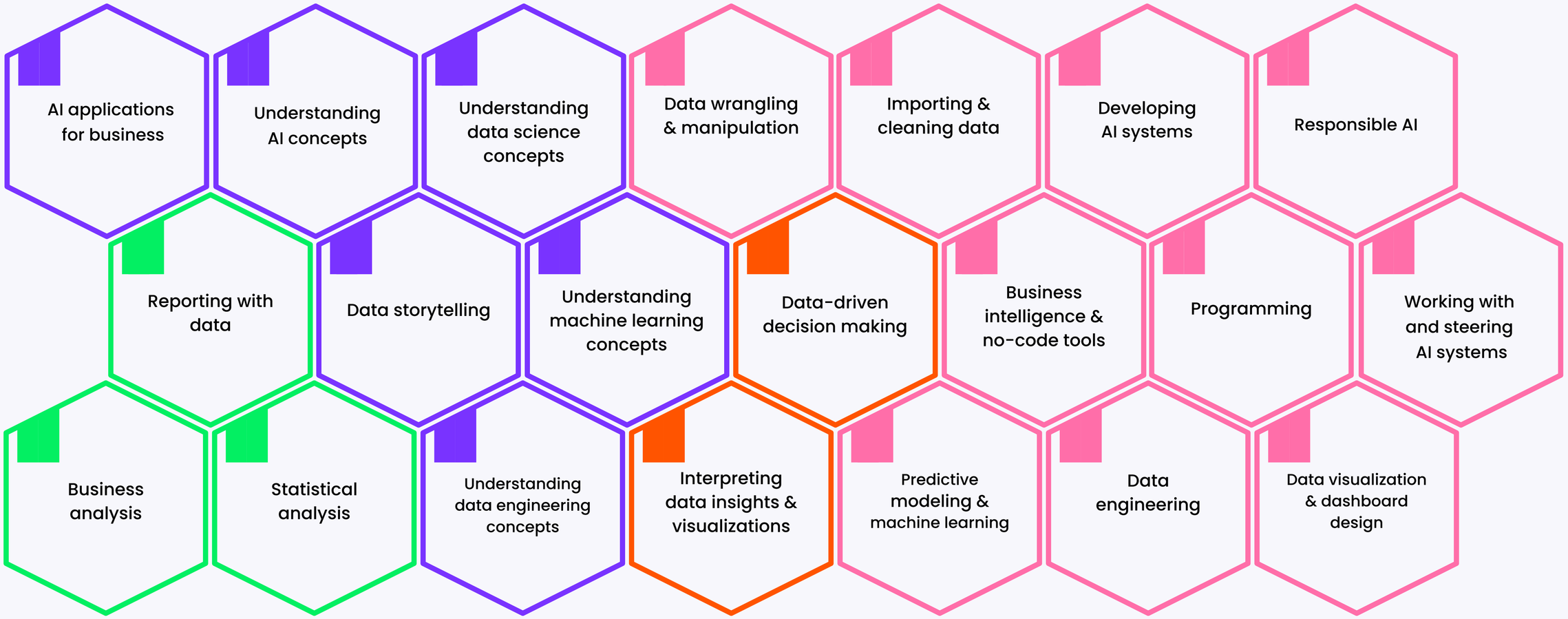
Discover key data & AI skills for your team's success.

Get an overview of DataCamp's vast learning catalog to fill your team's data & AI skill gaps. From frontline workers to business leaders and data scientists—we've got everyone covered.

Data & AI Competency Framework

This framework oversees the entire spectrum of data & AI skills you may look to grow within your workforce. On the next page, we will introduce key personas and roles and will match skills and learning paths for each of them.

At DataCamp, we identify four key groups of competencies: **communicating, reading, reasoning,** and **working** with data & AI.



Data & AI Competency Framework

Communicating with Data & AI

- **Data storytelling:** The art of effectively communicating insights and findings from data analysis.
- **Understanding data science concepts:** Being knowledgeable and conversational about the methods, theories, and tools used in the field of data science.
- **Understanding data engineering concepts:** Being familiar with the processes and technologies involved in designing, constructing, and maintaining data pipelines and infrastructure.
- **Understanding machine learning concepts:** Being knowledgeable about the possibilities and limitations of machine learning and the techniques used to train and operate predictive models.
- **Understanding AI concepts:** Being familiar with key AI technologies, such as ChatGPT, Large Language Models, and Generative AI.
- **AI applications for business:** Understand how to utilize AI and Large Language Models to extract business value from AI.

Reasoning with Data & AI

- **Business analysis:** Using data and analysis to understand and improve business processes and operations.
- **Statistical analysis:** Using statistical methods to analyze and make inferences from data.
- **Reporting with data:** Presenting data-based findings and insights clearly and concisely.

Working with Data & AI

- **Data wrangling and manipulation:** Transforming and organizing data for analysis.
- **Predictive modeling and machine learning:** Training and using predictive models to make predictions about future events.
- **Data engineering:** Designing and building the infrastructure and processes for collecting, storing, and analyzing data.
- **Programming:** Mastery of programming languages to perform data-related tasks.
- **Importing and cleaning data:** Reading data from various sources and ensuring they are free of data quality issues.
- **Data visualization and dashboard design:** Creating graphical representations of data and designing interactive dashboards for data exploration and analysis.
- **Developing AI systems:** Create production-ready AI applications, build and fine-tune LLMs for specific use cases.
- **Responsible AI:** Understand the ethical implications of using AI and leverage AI responsibly.
- **Working with and steering AI systems:** Leverage ChatGPT and other LLMs to automate routine tasks and drive workflow efficiencies.

Reading Data

- **Interpreting data insights and visualizations:** Understanding and making sense of data-based findings and their representations.
- **Data-driven decision making:** Using data and analysis to inform business decisions.

Introducing Key Personas and Roles

Use this page to identify key personas within your organization and dive deeper into the required skills by clicking on the roles.

Data Consumers & Business Leaders

These individuals need to consume data insights to make better data-driven decisions. They tend to be individual contributors, or hold leadership roles that don't require them to produce data insights.

Possible job titles
HR Associate
Account Executive
VP of Marketing
VP of Finance
VP of Sales
Chief Learning Officer

Citizen Data Practitioner

These individuals work with data daily but are usually not part of a technical or data team. They tend to be individual contributors to functional teams (e.g., financial analysts, marketing analysts, etc.).

Possible job titles
Business Intelligence Analyst
Business Analyst
Marketing Analyst
Financial Analyst
Supply Chain Analyst

Data Practitioner

These individuals are usually part of a broader data team. Their responsibilities include surfacing data insights, running experiments, creating predictive models, and providing value with data.

Possible job titles
Data Analyst
Data Scientist
Data Engineer
Statistician
Quantitative Analyst
Programmer

* Depending on the type of role (data engineer, data scientist, data analyst)—the degree of proficiency for competencies may shift. We will provide varied competencies based on these roles.

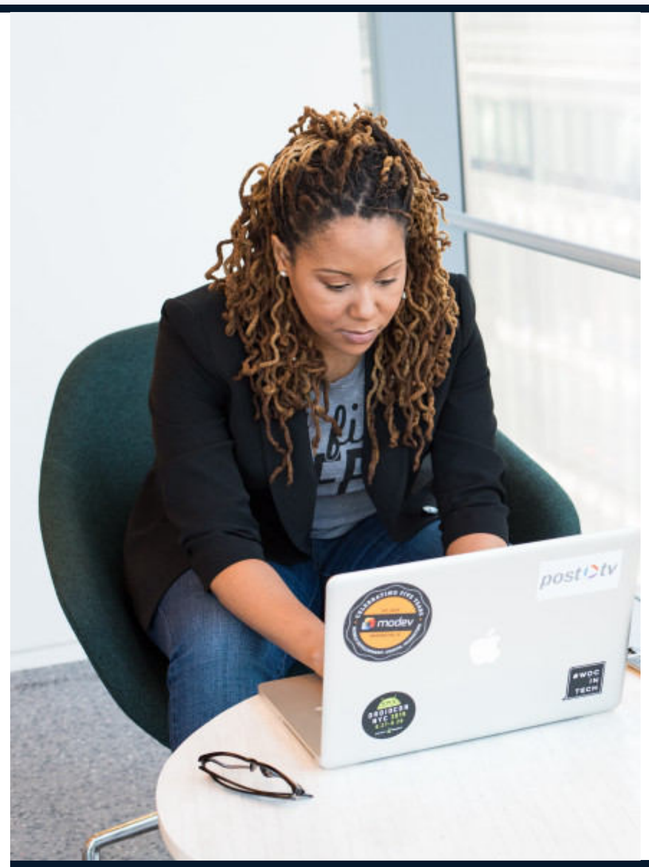
Data Expert

These professionals are top-tier data talent within the organization, possessing advanced technical expertise, bridging the gap between research and engineering. Their main focus centres on developing and deploying sophisticated data and machine learning systems.

Possible job titles
Machine Learning Scientist
Machine Learning Engineer
Research Engineer
Research Scientist
Staff Data Scientist

* Depending on the type of role—the degree of proficiency for competencies may shift. We will provide varied competencies based on these roles.

Data & AI Skills for Data Consumers



Data consumers need the skills to make data-driven decisions, drive workflow efficiencies using AI, and have an informed conversation with a data & AI professional.

Beginner Skills

- Understanding machine learning, data science, data engineering, and AI concepts
- Business intelligence & no-code tools
- Working with and steering AI systems
- Responsible AI

Intermediate Skills

- Data storytelling

Advanced Skills

- Interpreting data insights & visualizations
- Data-driven decision-making

Data & AI Resources for Data Consumers

Curated Learning Paths

Skill Track
Data Literacy Professional →

Skill Track
AI Fundamentals →

Skill Track
Power BI Fundamentals →

Skill Track
Understanding Data Topics →

Skill Track
Data Storytelling →

Skill Track
Tableau Fundamentals →

Bite-sized Learning

Assessment
Data Storytelling →

Case Study
Remote Working Analysis →

Course
Introduction to ChatGPT →

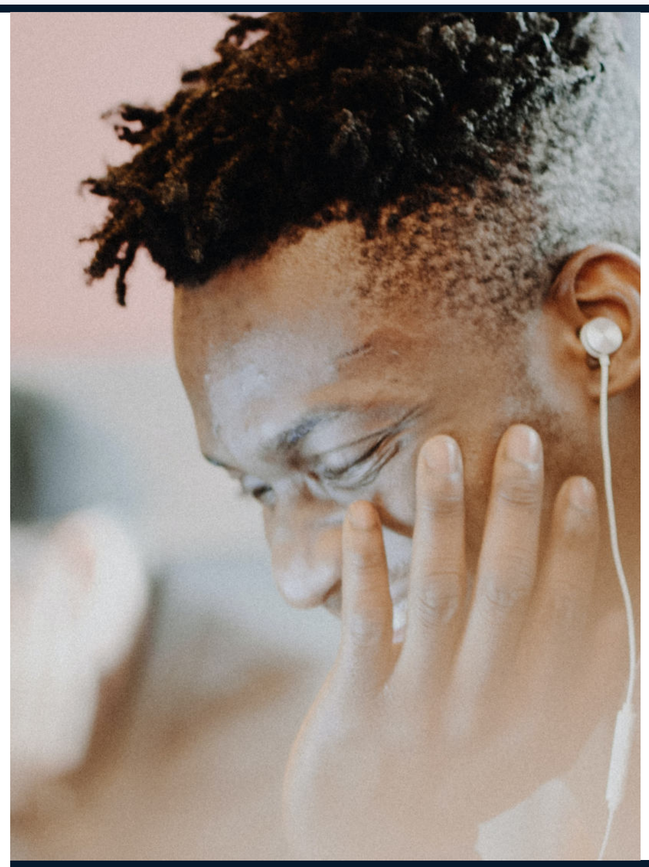
Additional Resources

Podcast
How Organizations Can Bridge the Data Literacy Gap →

Podcast
How Data Literacy Skills Help You Succeed →

Webinar
Effective Data Storytelling: How to Turn Insights into Action →

Data & AI Skills for Business Leaders



Business leaders require skills to make and communicate data-driven decisions, extract business value by leveraging data & AI tools, and have informed conversations with data or AI experts.

Beginner Skills

- Business intelligence & no-code tools.
- Working with and steering AI systems.
- Understanding data engineering concepts

Intermediate Skills

- Understanding machine learning, data science, and AI concepts.
- Responsible AI

Advanced Skills

- Data storytelling
- Interpreting data insights & visualizations.
- Data-driven decision making
- AI Applications for business.

Data & AI Resources for Business Leaders

Curated Learning Paths

Skill Track
Data Skills for Business →

Skill Track
Data Storytelling →

Skill Track
Tableau Fundamentals →

Skill Track
Data Literacy Professional →

Skill Track
AI Business Fundamentals →

Skill Track
Power BI Fundamentals →

Bite-sized Learning

Assessment
AI Fundamentals →

Case Study
Data Storytelling Case Study: Green Businesses →

Course
MLOps for Business →

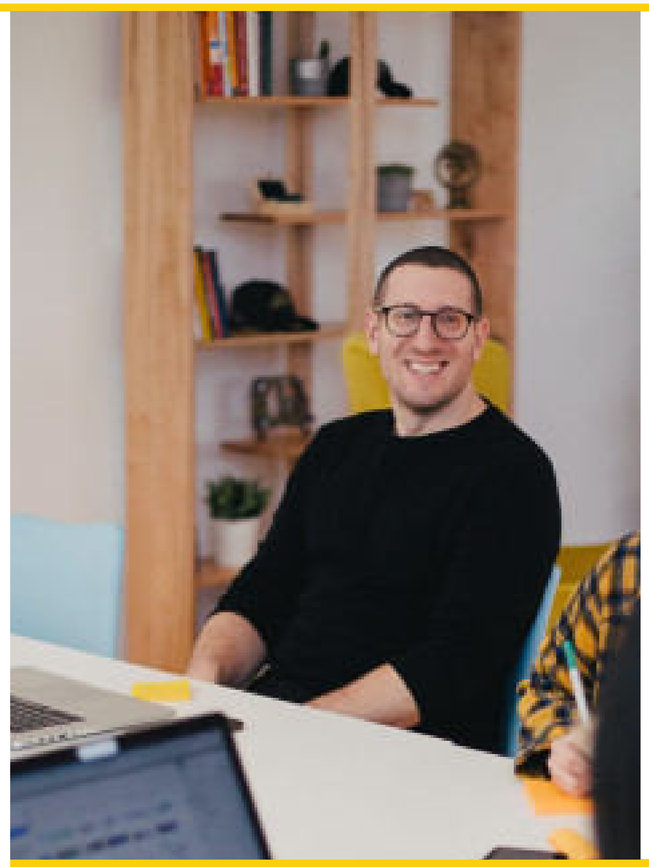
Additional Resources

Podcast
Building Data Literacy at Starbucks →

Podcast
Why AI will Change Everything—with Former Snowflake CEO, Bob Muglia →

Webinar
Data Literacy: A How-to Guide for Leaders →

Data & AI Skills for Citizen Data Practitioners



Citizen data practitioners play a crucial role in bridging the gap between business needs and data. They tend to be individual contributors to functional teams (e.g., financial analysts, marketing analysts, etc.) that produce and consume data insights to drive business outcomes.

Beginner Skills

- Understanding machine learning, data engineering, and AI concepts
- Working with and steering AI systems
- Responsible AI
- Programming
- Statistical Analysis
- Importing and cleaning data

Intermediate Skills

- Understanding data science concepts
- Data wrangling and manipulation
- Business intelligence and no-code tools
- Data visualization and dashboard design
- AI Applications for business

Advanced Skills

- Business analysis
- Reporting with data
- Data storytelling
- Interpreting data insights and visualizations
- Data-driven decision making

Data & AI Resources for Citizen Data Practitioners

Curated Learning Paths

Career track
Data Analyst in Tableau →

Career track
Data Analyst in Power BI →

Skill Track
Intermediate Spreadsheets →

Skill Track
Data Skills for Business →

Skill Track
SQL for Business Analysts →

Skill Track
Finance Fundamentals in Spreadsheets →

Bite-sized Learning

Assessment
Data Storytelling →

Case Study
Analyzing Customer Churn in Tableau →

Course
Data Analysis in Excel →

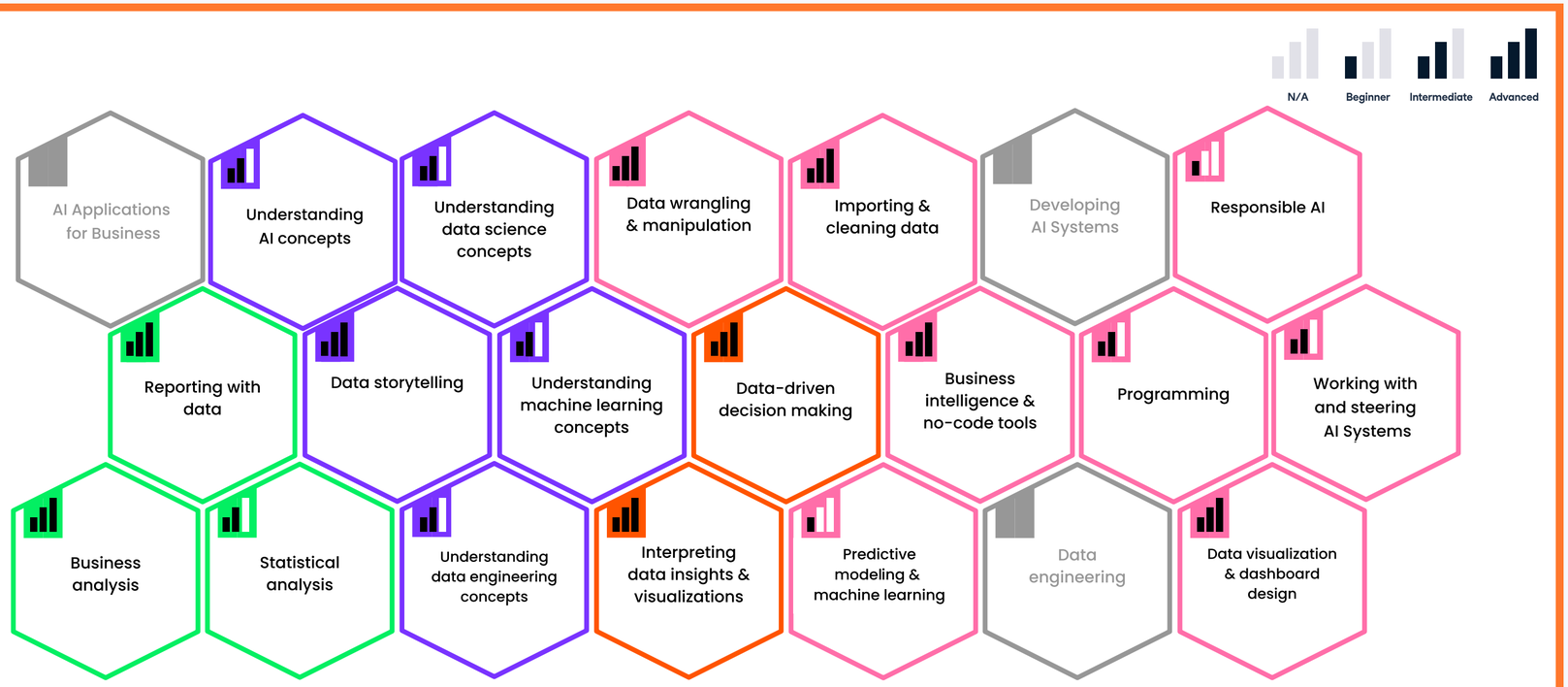
Additional Resources

Podcast
The Data Storytelling Skills Data Teams Need →

Podcast
How Power BI Empowers Collaboration →

Cheat sheet
Data Manipulation in Excel Cheat Sheet →

Data & AI Skills for Data Practitioners — Data Analysts



Data Analysts collect, clean, and interpret data to provide meaningful insights and support informed decision-making. They provide the organization an insight layer to enable the different functions they support.

Beginner Skills

- Predictive modelling & machine learning *(e.g., simple forecasting)*
- Responsible AI

Intermediate Skills

- Understanding machine learning, data science, data engineering, and AI concepts
- Statistical analysis
- Programming
- Working with and steering AI systems

Advanced Skills

- Business intelligence and no-code tools.
- Business analysis
- Data storytelling
- Reporting with data
- Data wrangling and manipulation
- Importing and cleaning data
- Data visualization and dashboard design
- Interpreting data insights and visualizations
- Data-driven decision making

Data & AI Resources for Data Analysts

Certifications

Data Analyst

Associate • Professional →

Curated Learning Paths

Career track

Data Analyst in Tableau →

Career track

Data Analyst in Power BI →

Skill Track

Data Manipulation with Python →

Career track

Data Analyst with Python →

Career track

Data Analyst with R →

Career track

Data Analyst in SQL →

Bite-sized Learning

Assessment

Analytic Fundamentals →

Project

What and Where are the World's Oldest Businesses →

Course

Functions for Manipulating Data in PostgreSQL →

Additional Resources

Cheat sheet

SQL Joins Cheat Sheet →

Podcast

How Data is Used in Soccer Analytics →

Cheat sheet

How Power BI Empowers Collaborationoins Cheat Sheet →

Data & AI Skills for Data Practitioners — Data Scientists

Data Scientists apply advanced statistical and machine learning techniques to analyze complex data sets, build predictive models, and uncover patterns to address business challenges and discover valuable insights.

Beginner Skills

- Data engineering

Intermediate Skills

- AI Applications for Business
- Developing AI systems
- Business intelligence & no-code tools
- Working with and steering AI systems
- Understanding data engineering concepts

Advanced Skills

- Understanding machine learning, data science, data engineering, and AI concepts
- Data wrangling & manipulation
- Importing & cleaning data
- Responsible AI
- Reporting with data
- Data storytelling
- Data-driven decision making
- Programming
- Business analysis
- Statistical analysis
- Interpreting data insights & visualizations
- Predictive modelling & machine learning
- Data visualization & dashboard design

Data & AI Resources for Data Scientists

Certification programs

Data Scientist

Associate • Professional

Curated Learning Paths

Career track

Data Scientist with Python

Career track

Data Scientist with R

Skill Track

Natural Language Processing in Python

Skill Track

Machine Learning Fundamentals with Python

Skill Track

Statistics Fundamentals with Python

Skill Track

Machine Learning Fundamentals in R

Bite-sized Learning

Assessment

Data Manipulation with Python

Project

Predicting Credit Card Approvals

Course

Machine Learning with Tree-Based Models in Python

Additional Resources

Live Training

Using ChatGPT Code Interpreter for Data Science

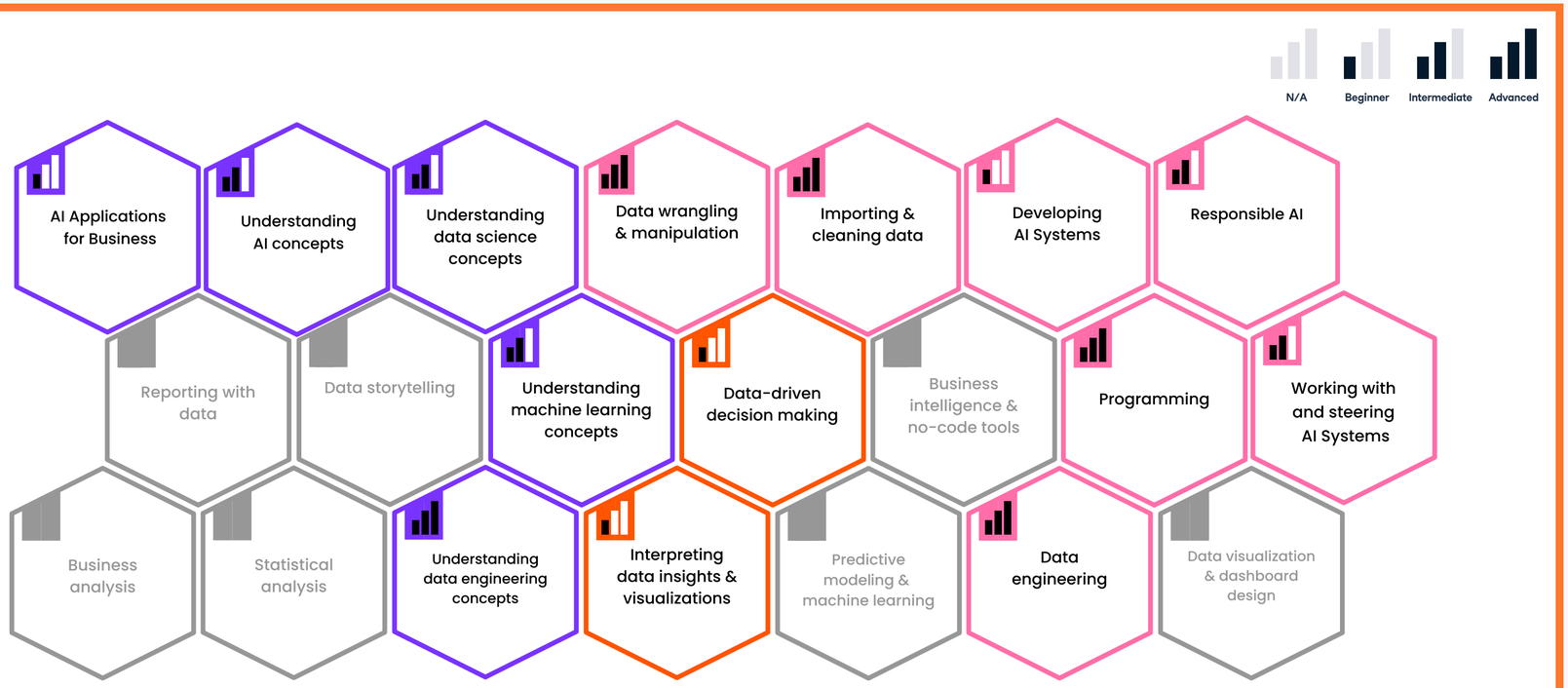
Webinar

Getting Started with the OpenAI API and ChatGPT

Cheat sheet

Scikit-Learn Cheat Sheet: Python Machine Learning

Data & AI Skills for Data Practitioners — Data Engineers



Data Engineers design, develop, and maintain data pipelines and databases, ensuring efficient data storage, retrieval, and integration for analytics and business applications.

Beginner Skills

- AI applications for business
- Data-driven decision making
- Interpreting data insights & visualization

Intermediate Skills

- Understanding machine learning, data science, and AI concepts
- Responsible AI
- Working with and steering AI systems

Advanced Skills

- Understanding data engineering concepts
- Data engineering
- Data wrangling and manipulation
- Importing and cleaning data
- Programming

Data & AI Resources for Data Engineers

Certification programs

Data Engineer

Associate →

Curated Learning Paths

Career track

Data Engineer →

Skill Track

Big Data with PySpark →

Skill Track

SQL for Database Administrators →

Bite-sized Learning

Assessment

Programming for Data Engineering →

Project

Exploring London's Travel Network (Snowflake, BigQuery, SQL) →

Course

Introduction to Airflow in Python →

Additional Resources

Blog

Containerization: Docker and Kubernetes for Machine Learning →

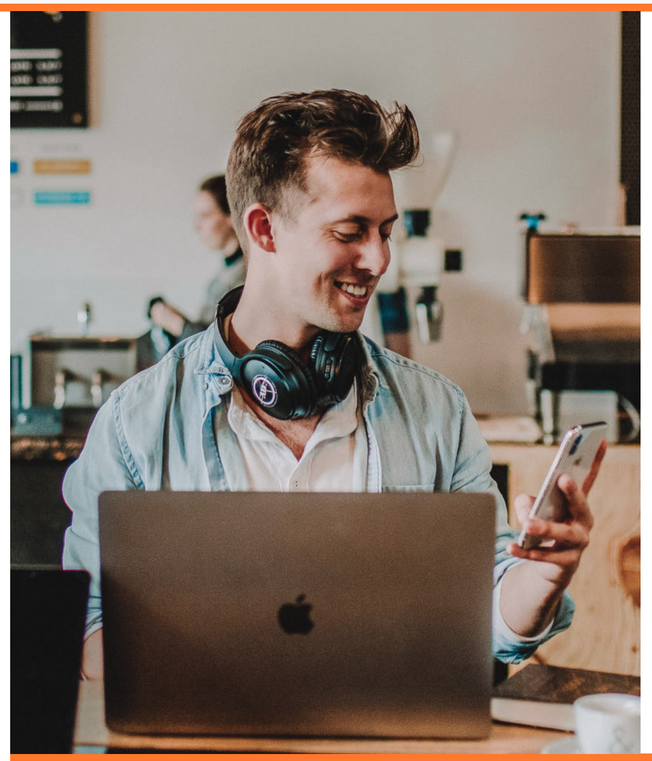
Cheat sheet

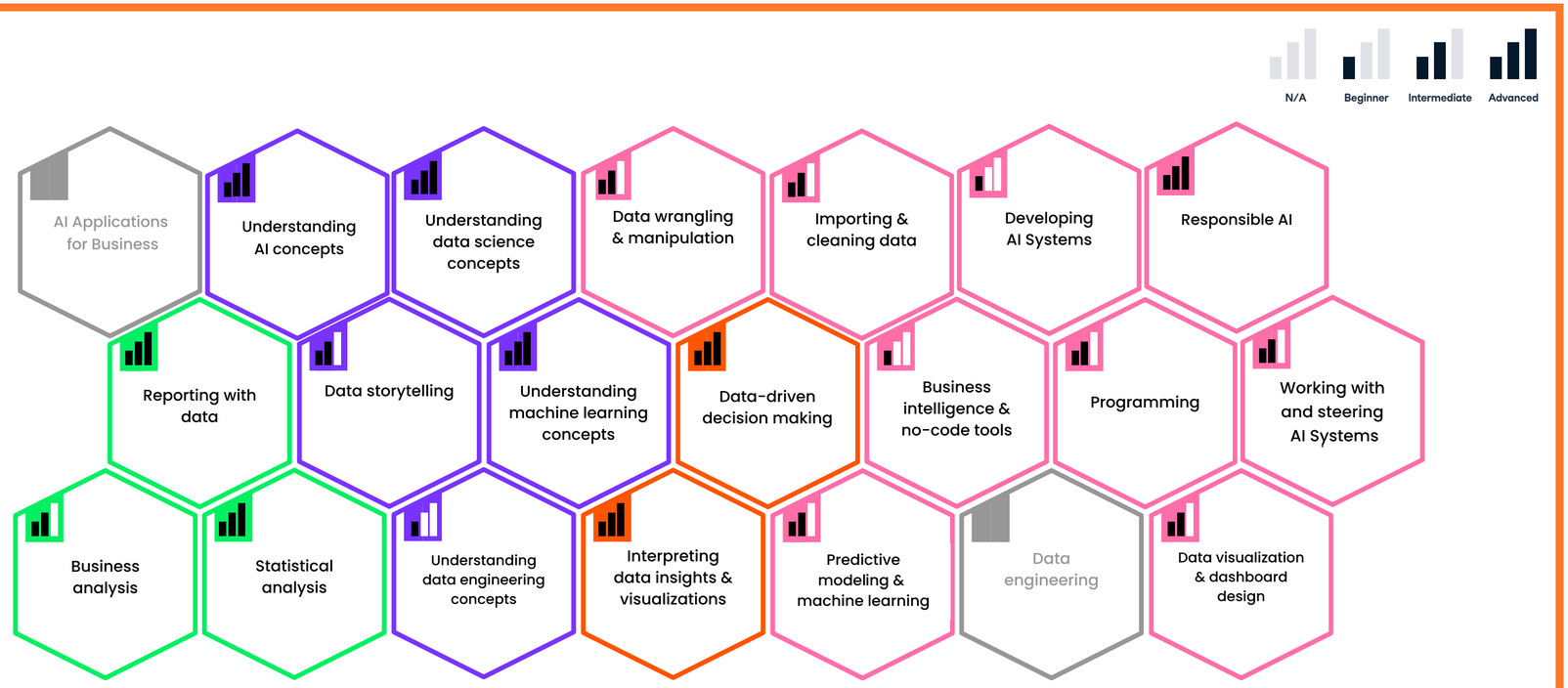
PySpark Cheat Sheet: Spark in Python →

Cheat sheet

AWS, Azure and GCP Service Comparison for Data Science & AI →

Data & AI Skills for Data Practitioners — Statisticians





Statisticians specialize in designing experiments, conducting statistical analyses, and interpreting results to provide meaningful conclusions and guide decision-making processes.

Beginner Skills

- Developing AI systems
- Business intelligence & no-code tools
- Understanding data engineering concepts

Intermediate Skills

- Data wrangling & manipulation
- Importing & cleaning data
- Data storytelling
- Programming
- Working with and steering AI systems
- Business Analysis
- Predictive modeling & machine learning
- Data visualization and dashboard design

Advanced Skills

- Understanding data science, AI, machine learning concepts
- Responsible AI
- Reporting with data
- Data-driven decision making
- Statistical Analysis
- Interpreting data insights & visualizations

Data & AI Resources for Statisticians

Curated Learning Paths

Career track

Statistician with R →

Skill Track

Statistics Fundamentals with Python →

Skill Track

Intermediate Spreadsheets →

Bite-sized Learning

Assessment

Statistical Experimentation Theory →

Project

Hypothesis Testing with Men's and Women's Soccer Matches →

Course

Intermediate Regression in R →

Additional Resources

Tutorial

An Introduction to Statistical Machine Learning →

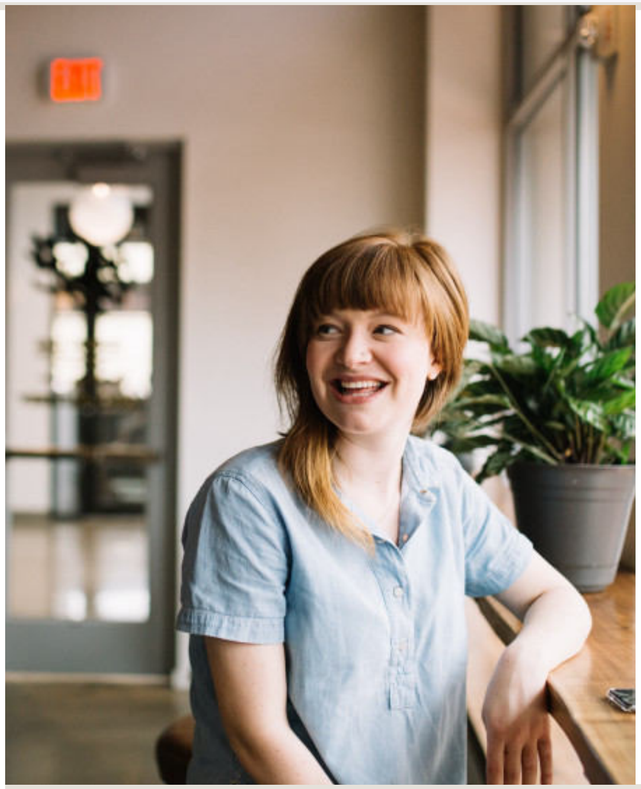
Podcast

Make Your A/B Testing More Effective and Efficient →

Cheat sheet

Descriptive Statistics Cheat Sheet →

Data & AI Skills for Data Experts — Machine Learning Scientists



Machine Learning Scientists research and develop state-of-the-art machine learning algorithms, neural networks, and models to enable better and smarter decisions, products, and services.

Beginner Skills

- AI applications for business
- Reporting with data
- Data storytelling
- Data driven decision making
- Business analysis
- Data visualization and dashboard design

Intermediate Skills

- Understanding data engineering concepts
- Interpreting data insights and visualizations
- Data Engineering

Advanced Skills

- Understanding machine learning, data science, and AI concepts
- Data wrangling and manipulation
- Importing and cleaning data
- Developing AI systems
- Responsible AI
- Programming
- Working with and steering AI systems
- Statistical Analysis
- Predictive modeling & machine learning

Data & AI Resources for Machine Learning Scientists

Curated Learning Paths

Career track
Machine Learning Scientist with R →

Career track
Machine Learning Scientist with Python →

Skill Track
Natural Language Processing with Python →

Skill Track
Deep Learning with Python →

Skill Track
MLOps Fundamentals →

Skill Track
Image Processing with Python →

Bite-sized Learning

Assessment
Machine Learning Fundamentals in Python →

Project
Predicting Credit Card Approvals →

Course
Introduction to Deep Learning with PyTorch →

Additional Resources

Live Training
Sloth or Pastry? Using PyTorch and Deep Learning for Image Classification →

Cheat sheet
Machine Learning Cheat Sheet →

Tutorial
How to run Stable Diffusion →

Data & AI Skills for Data Experts — Machine Learning Engineers

Machine Learning Engineers create and deploy artificial intelligence systems and applications, working with machine learning models, natural language processing, and computer vision technologies to build intelligent software solutions.

Beginner Skills

- Reporting with data
- Data storytelling
- Data-driven decision making

Intermediate Skills

- Business analysis
- Interpreting data insights and visualizations

Advanced Skills

- AI Applications for business
- Understanding machine learning, data science, data engineering, and AI concepts
- Data wrangling and manipulation
- Importing and cleaning data
- Developing AI Systems
- Responsible AI
- Programming
- Working with and steering AI systems
- Statistical Analysis
- Predictive modeling & machine learning
- Data Engineering

Data & AI Resources for Machine Learning Engineers

Curated Learning Paths

Career track

Python Developer →

Skill Track

Big Data with PySpark →

Career Track

Machine Learning Engineer →

Skill Track

MLOps Fundamentals →

Skill Track

Deep Learning with Python →

Skill Track

Natural Language Processing with Python →

Bite-sized Learning

Assessment

Machine Learning Fundamentals in Python →

Project

Predictive Modeling for Agriculture →

Course

Working with the OpenAI API →

Additional Resources

Live Training

Building AI Applications with LangChain and GPT →

Cheat sheet

The OpenAI API in Python →

Tutorial

Containerization: Docker and Kubernetes for Machine Learning →

Create personalized learning paths for your organization

Achieve personalization at scale with the DataCamp for Business Custom Tracks feature. Tailor your team's learning journey by enriching a curated career or skill track or assembling an organization track from scratch. Choose from a wide range of courses, chapters from courses, assessments, projects, webinars, cheat sheets, tutorials, and podcasts to create a tailored learning experience for your personas.

Retail Analytics in SQL and Power BI

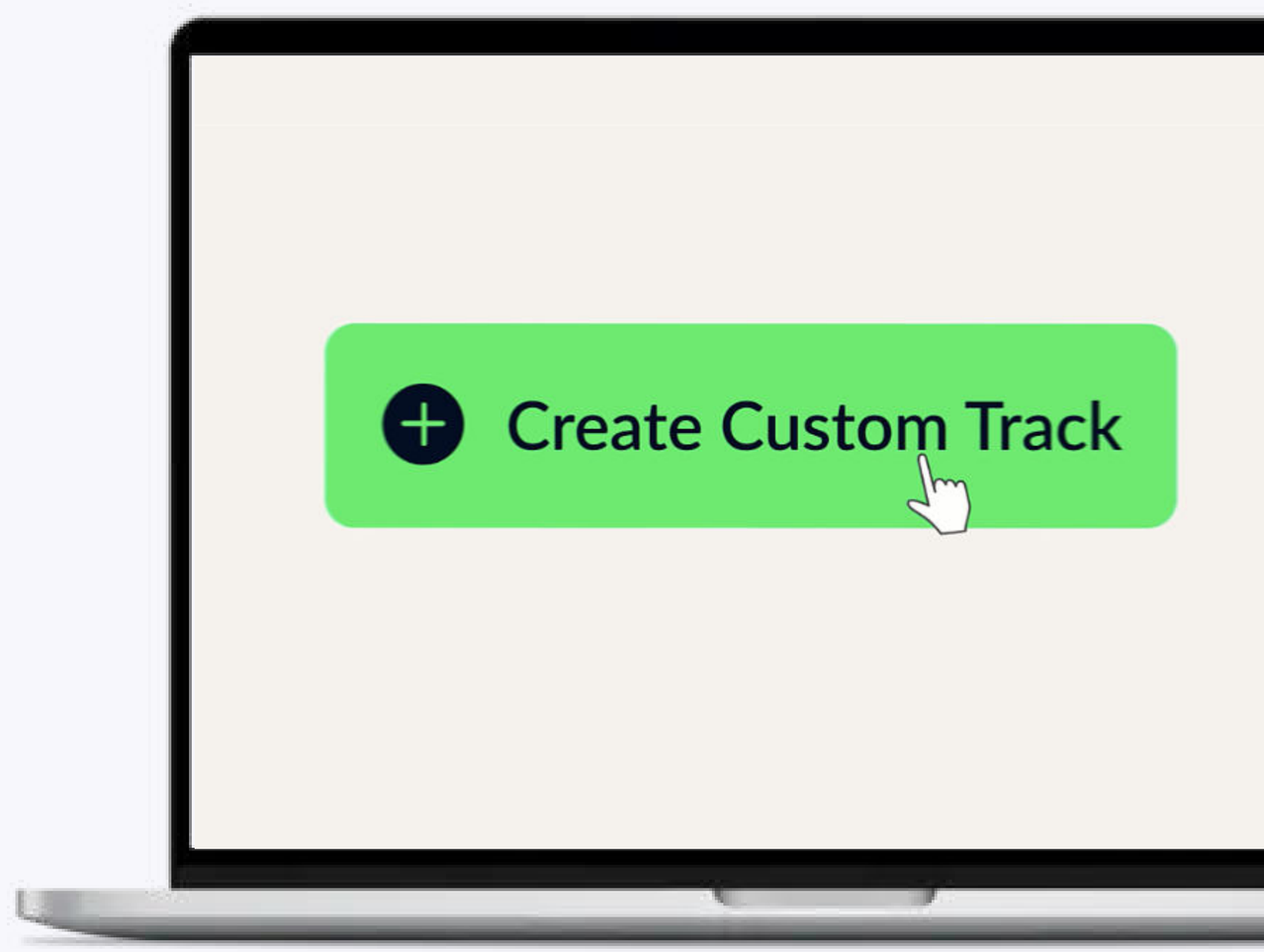
Best persona fit for:
Citizen data practitioners

Help your business and data analysts translate the vast amounts of customer transactions and viewing data into simple rules so you can deliver higher converting products promotions, and recommendations.

Possible job titles:

- Supply Chain Analyst
- Business Analyst
- Business Intelligence Analyst

- [Assessment] Analytics Fundamentals
- [Course] Introduction to Power BI
- [Assessment] Data Analysis in SQL
- [Course] Analyzing Business Data in SQL
- [Course] Data Preparation in Power BI
- [Webinar] Report Design Best Practices in Power BI
- [Case Study] Inventory Analysis in Power BI



Create personalized learning paths for your organization

Machine Learning for Finance

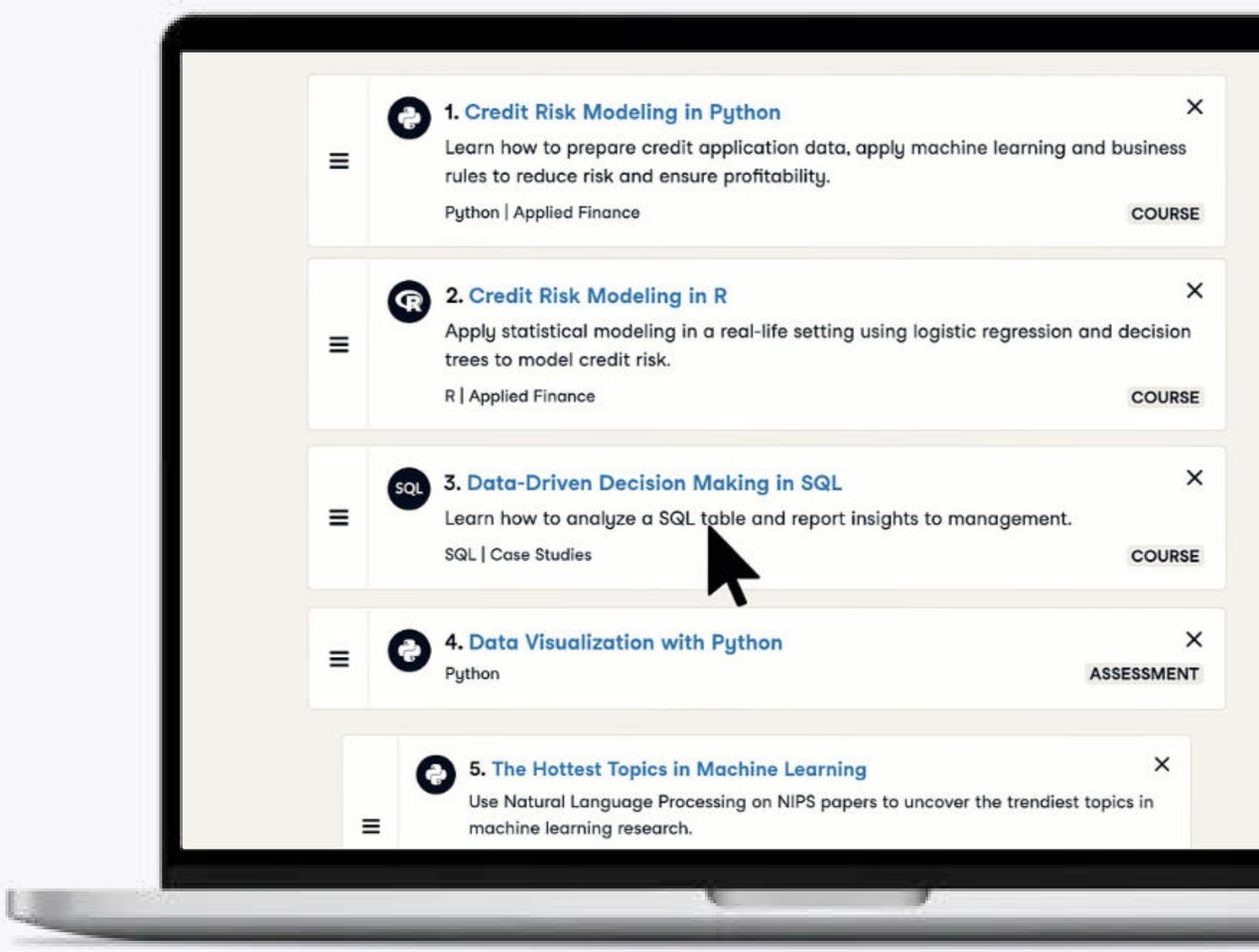
Best persona fit for:
Data practitioners (data scientists)

From working with time-series data to creating linear models, decision trees, random forests, and neural networks—this track is designed for finance professionals who want to use machine learning to model risk and make accurate predictions.

Possible job titles:

- Data Scientist
- Risk Analyst
- Quantitative Analyst

- [Course] Credit Risk Modeling in Python
- [Podcast] How Data Science Drives Value for Finance Teams
- [Course] Machine Learning for Finance in Python
- [Tutorial] Turning Machine Learning Models into APIs in Python
- [Project] Predicting Credit Card Approvals
- [Assessment] Machine Learning Fundamentals in Python

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