■ Python Modules Cheat Sheet (with Uses)

Built-in (Standard Library)

Module	Use
os	Interact with operating system (files, paths, environment)
sys	System-specific functions (command-line args, interpreter info)
math	Mathematical functions (sqrt, factorial, trigonometry)
random	Random numbers, shuffle, choices
datetime	Work with dates and times
time	Time-related functions (sleep, timestamps)
json	Parse & write JSON data
re	Pattern matching with regular expressions
collections	Specialized data structures (Counter, defaultdict, deque)
itertools	Iterator tools (permutations, combinations, loops)
functools	Higher-order functions (reduce, lru_cache, partial)
statistics	Basic statistics (mean, median, stdev)
subprocess	Run external commands/programs
http.client / urllib	Work with HTTP requests
argparse	Build command-line interfaces
shutil	File operations (copy, move, delete)
pickle	Serialize and deserialize objects

Data Science & Machine Learning

Module	Use
numpy	Numerical computing, arrays, linear algebra
pandas	Data manipulation & analysis (DataFrames)
matplotlib	Data visualization (charts, plots)
seaborn	Statistical visualization
scipy	Scientific computing, advanced math & stats
scikit-learn	Machine learning (classification, regression, clustering)
tensorflow / pytorch	Deep learning frameworks
statsmodels	Statistical models & hypothesis testing

Web Development

Module	Use
flask	Lightweight web framework
django	Full-featured web framework
fastapi	Modern API development
requests	HTTP requests (GET, POST)
beautifulsoup4	Web scraping
selenium	Browser automation

Automation & Scripting

Module	Use
pyautogui	Automate keyboard & mouse actions
schedule	Task scheduling
logging	Logging and debugging
configparser	Handle configuration files

Data Storage & Databases

Module	Use
sqlite3	Lightweight SQL database
sqlalchemy	Database ORM (Object Relational Mapper)
pymongo	Work with MongoDB
mysql-connector-python	MySQL connector

Cybersecurity & Networking

Module	Use
hashlib	Hashing (MD5, SHA)
socket	Network programming (TCP/UDP)
cryptography	Encryption & security
paramiko	SSH automation

Other Useful Modules

Module	Use
tkinter	Build GUI applications
pygame	Game development
openpyxl	Excel file handling

reportlab	PDF generation
PIL / pillow	Image processing