# System Requirement

* + ***Hardware****:*

| * + **Component** | * + **Minimum Specification** | * + **Recommended Specification** |
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| * + **Processor (CPU)** | * + Intel i5 or AMD Ryzen 5 | * + Intel i7/i9 or AMD Ryzen 7/9 |
| * + **RAM** | * + 8 GB | * + 16–32 GB |
| * + **Storage** | * + 256 GB SSD | * + 512 GB SSD or more |
| * + ***Graphics (GPU)*** | * + *Integrated GPU (for basic tasks)* | * + *Dedicated GPU (e.g., NVIDIA GTX/RTX) for deep learning models* |
| * + ***Display*** | * + *1366 × 768 resolution* | * + *1920 × 1080 Full HD or higher* |

* + ***Software****:*

| * + **Category** | * + **Tools/Software** |
| --- | --- |
| * + **Operating System** | * + Windows 10/11, macOS, or any Linux distribution (Ubuntu preferred) |
| * + **Programming Language** | * + Python 3.8 or later |
| * + **Development Environment** | * + Jupyter Notebook, VS Code, or PyCharm |
| * + **Libraries & Frameworks** | * + NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, XGBoost, LightGBM, TensorFlow/Keras (if using deep learning) |
| * + **Database (optional)** | * + SQLite, MySQL, or PostgreSQL (if persistent storage is needed) |
| * + **Virtual Environment** | * + Anaconda or venv/pip for environment management |