DAY – 82

28 November 2025

Sahi solution (best + fast)

1. Microsoft C++ Build Tools install karo

Go to:

https://visualstudio.microsoft.com/visual-cpp-build-tools/

Install during setup:

- ☑ **Desktop development with C++**
- ☑ **MSVC v143 build tools**
- ☑ **Windows 10/11 SDK**

Restart system → pip install dubara chalao:

pip install hnswlib==0.7.0

OPTIONAL: Fastest alternative (No C++ build tools required)

Windows te hnswlib da **pre-built wheel** available nahi — is karke build tools jaruri hai.

But je tainu **install hi nahi karna** te sirf vector search karna, taan alternatives:

✔ Alternative 1 — use faiss-cpu (easiest)

pip install faiss-cpu

✔ Alternative 2 — use chromadb without hnswlib

Chromadb automatically fallback kar lega:

pip install chromadb

Summary

Method	Works?	Requirement
Install hnswlib	✔	C++ Build Tools required
Install faiss-cpu	✔	No build tools needed
Install chromadb	✔	hnswlib optional

Why hnswlib will NEVER install on Python 3.13

- hnswlib provides **precompiled wheels only up to Python 3.11**
- Python **3.12 and 3.13** removed many old C APIs
- hnswlib source build requires a C++ compiler + patching → impossible on default Windows

  ➡ **Python 3.13 = No support = Build fails 100% of the time**

That's why you always get this error:

error: Microsoft Visual C++ 14.0 or greater is required

It is not your fault — **hnswlib is not compatible with Python 3.13**.

100% WORKING FIX (Guaranteed)

✔ Step 1 — Install Python 3.10 (recommended)

Download → https://www.python.org/downloads/release/python-3100/

During install → check:

✔ Add to PATH

✔ Install for all users

✔ **Step 2 — Create a new environment using Python 3.10:**

py -3.10 -m venv chatbot310

Activate:

chatbot310\Scripts\activate

✔ **Step 3 — Install hnswlib (this will succeed instantly):**

pip install hnswlib

No compiler needed
No errors
Works perfectly

Why Python 3.10 is best?

- All AI libraries support it (langchain, sentence-transformers, hnswlib, llama-index, etc.)
- Fastest and most compatible version for vector search work