DRAG & DROP

LANGFLOW:
CONNECTING
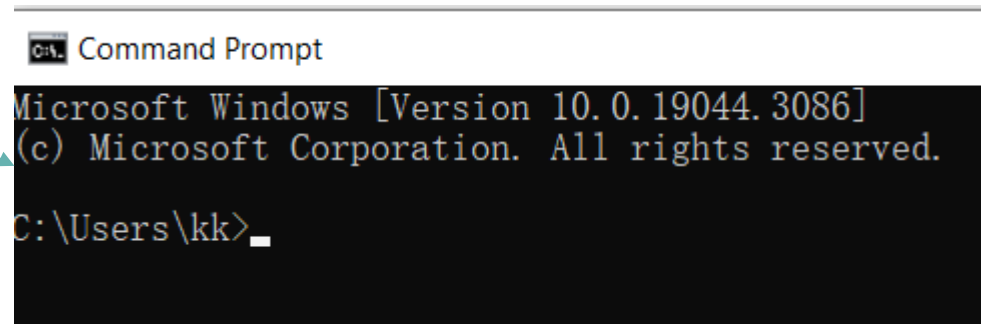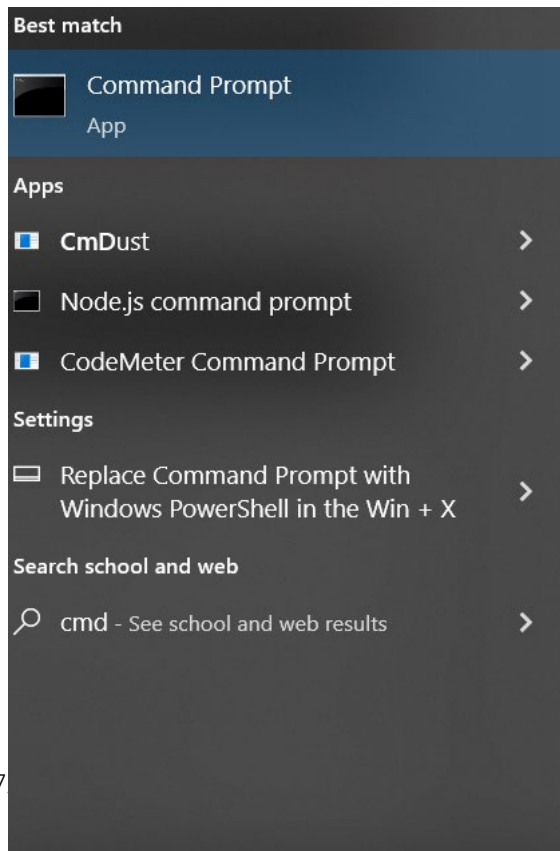NOTES TO GPT

LANG-X

LangChain

- Open-Source Framework
- Allows you to connect LLMs to other sources of data
- Code may be complex

LangFlow

- Open-Source Framework
- GUI for LangChain
- No-Code writing required!

GO TO CMD / TERMINAL

Pitch deck title

SETTING-UP LANGFLOW

- pip install langflow

```
Successfully installed XlsxWriter-3.1.2 aiostream-0.4.5 argilla-0.0.1 asgiref-3.7.2 authlib-1.2.0 beautifulsoup4-4.12.2
cffi-1.15.1 chardet-5.1.0 cohere-4.9.0 cryptography-41.0.1 ctransformers-0.2.5 deprecated-1.2.14 dill-0.3.6 docarray-0.
1.0 docker-6.1.3 docstring-parser-0.15 ecdsa-0.18.0 et-xmlfile-1.1.0 fake-useragent-1.1.3 google-api-core-2.11.0 google-
api-python-client-2.88.0 google-auth-httplib2-0.1.0 google-search-results-2.4.2 googleapis-common-protos-1.59.0 grpcio-
.47.5 grpcio-health-checking-1.47.5 grpcio-reflection-1.47.5 grpcio-tools-1.47.5 gunicorn-20.1.0 h2-4.1.0 hpack-4.0.0 h
tplib2-0.22.0 huggingface-hub-0.13.4 hyperframe-6.0.1 importlib-metadata-6.0.1 jcloud-0.2.11 jina-3.15.2 jina-hubble-sd
-0.38.0 joblib-1.2.0 langchain-0.0.186 langflow-0.0.84 llama-cpp-python-0.1.57 lxml-4.9.2 msg-parser-1.2.0 nltk-3.8.1 o
efile-0.46 openai-0.27.8 openpyxl-3.1.2 opentelemetry-api-1.18.0 opentelemetry-exporter-otlp-1.18.0 opentelemetry-expor
er-otlp-proto-common-1.18.0 opentelemetry-exporter-otlp-proto-grpc-1.18.0 opentelemetry-exporter-otlp-proto-http-1.18.0
opentelemetry-exporter-prometheus-1.12.0rc1 opentelemetry-instrumentation-0.39b0 opentelemetry-instrumentation-aiohttp-
lient-0.39b0 opentelemetry-instrumentation-asgi-0.39b0 opentelemetry-instrumentation-fastapi-0.39b0 opentelemetry-instr
mentation-grpc-0.39b0 opentelemetry-proto-1.18.0 opentelemetry-sdk-1.18.0 opentelemetry-semantic-conventions-0.39b0 ope
telemetry-util-http-0.39b0 pathspec-0.11.1 portalocker-2.7.0 prometheus-client-0.17.0 protobuf-3.20.3 psycopg2-binary-2
9.6 pyarrow-11.0.0 pycparser-2.21 pypandoc-1.11 pypdf-3.9.1 pysrt-1.1.2 python-docx-0.8.11 python-jose-3.3.0 python-mag
c-0.4.27 python-pptx-0.6.21 pywin32-306 qdrant-client-1.2.0 scikit-learn-1.2.2 sentence-transformers-2.2.2 sentencepiec
-0.1.99 threadpoolctl-3.1.0 tiktoken-0.3.3 transformers-4.29.0 typer-0.7.0 types-pyyaml-6.0.12.10 typing-extensions-4.5
0 unstructured-0.5.13 uritemplate-4.1.1 urllib3-1.26.16 uvicorn-0.20.0 weaviate-client-3.19.2 websocket-client-1.5.2 we
sockets-11.0.3 wrapt-1.15.0
```

RUNNING LANGFLOW

- python –m langflow

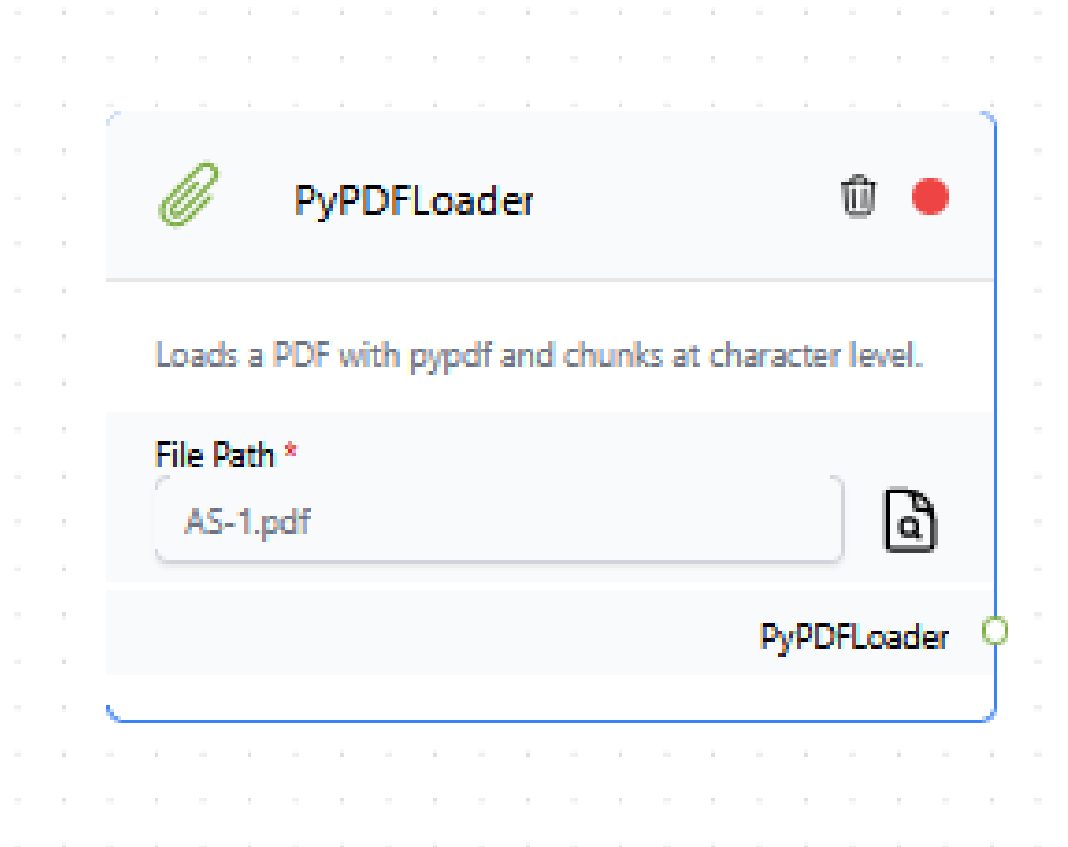|	
🚀 Agents	›
🔗 Chains	›
📎 Loaders	›
〰️ Embeddings	›
💡 LLMs	›
⬜ Memories	›
⌨️ Prompts	›
✂️ Text Splitters	›
🛠️ Toolkits	›
🔧 Tools	›
⊞ Utilities	›
⊟ Vector Stores	›
🎁 Wrappers	›

BASICS: LOADER

- Loader: Allows you to upload a file to connect with GPT
- Common Loaders:
- (Unstructured HTML Loader) (Web)
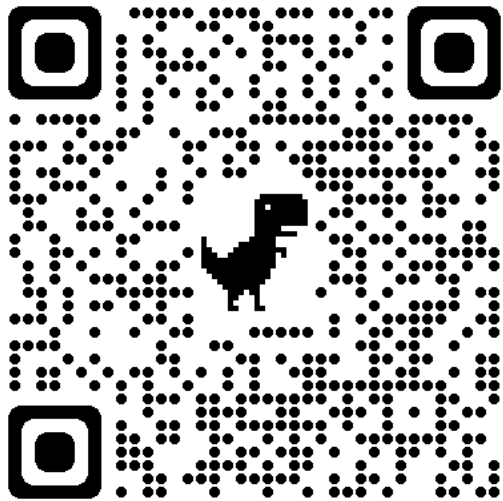- (PyPDFLoader) (PDF)
- (Unstructurted Word Loader) (DOCX File)

USING LOADER

- Drag & Drop: PyPDFLoader to the white space

TOKENS

- LLM views "words" differently from us

- https://platform.openai.com/tokenizer

LIMITATIONS OF GPT

- GPT-3.5-Turbo has limit of 4096 tokens ☹

- LangChain helps to settle this by breaking down the text into smaller chunk

- GPT-3.5-16K now supports 16K Tokens!

CHARACTER TEXT SPLITTER
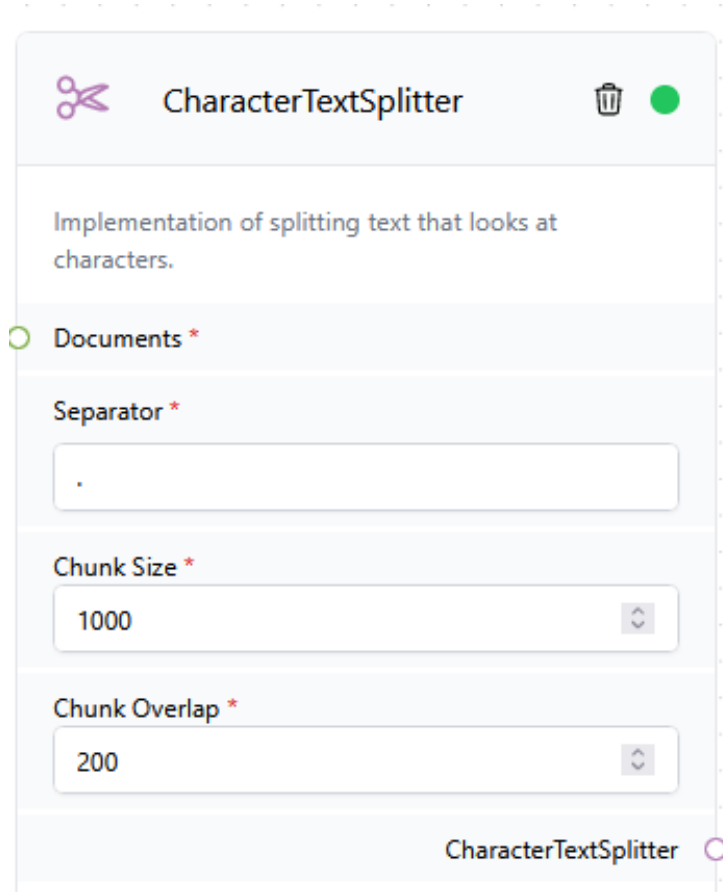
- Drag & Drop the Character Text Splitter to the open space

USING CHARACTER TEXT SPLITTER

- Separators:
- How would you want to separate the text?
- \n: new line
- \n\n: two new lines
- \t: tabs (4 spaces)

USING CHARACTER TEXT SPLITTER

- Chunk Overlap:
- Number of Overlapping Characters between adjacent chunks
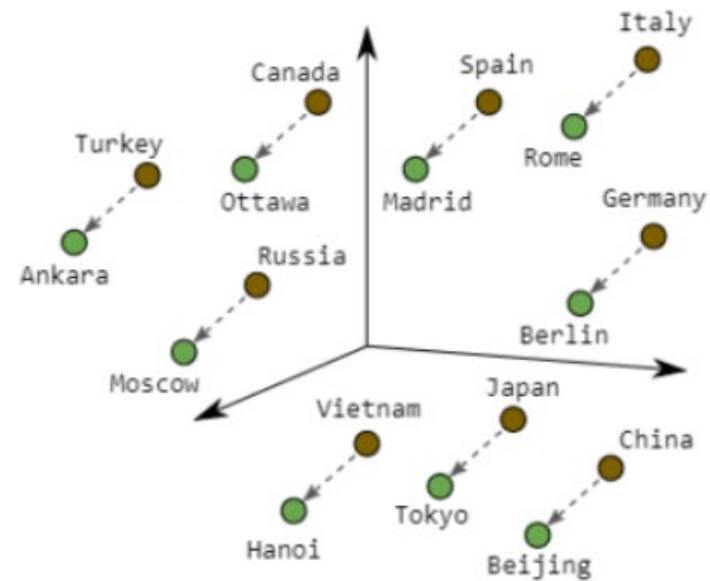- Default is 200 tokens

EMBEDDINGS

- Words plotted on a graph
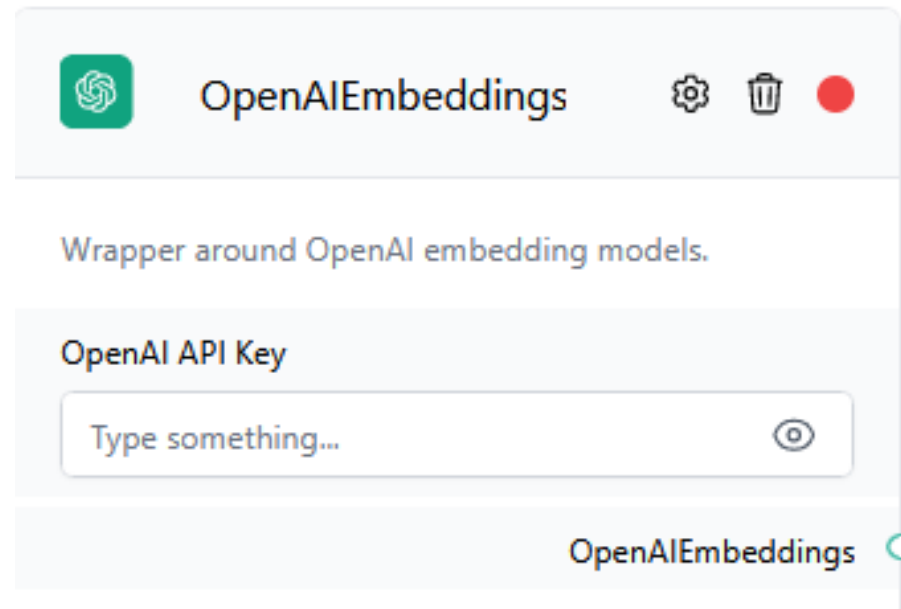- Words with similar meanings have a (similar) distance to one another
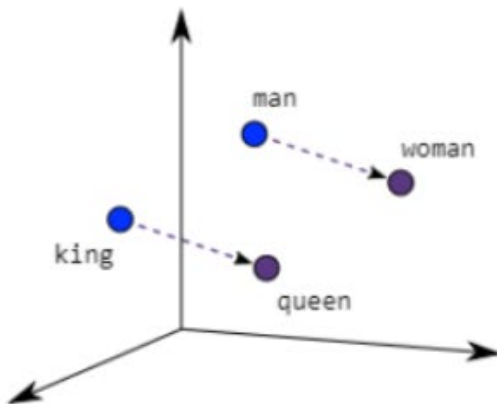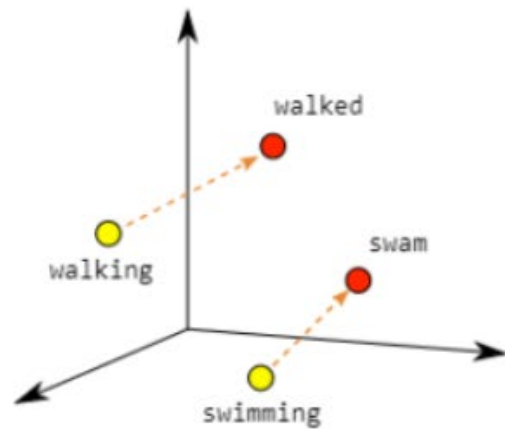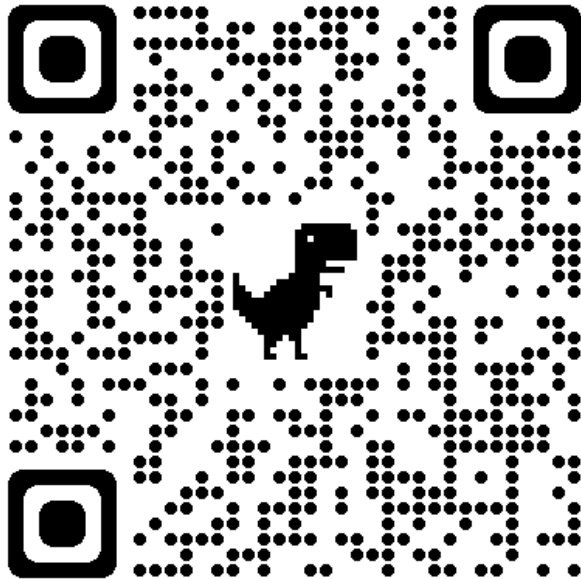

Male-Female   Verb Tense   Country-Capital

OPENAI EMBEDDINGS

- Drag & Drop: OpenAIEmbeddings to the white space

GETTING YOUR API KEY

- https://platform.openai.com/account/api-keys

OPENAIEMBEDDDINGS
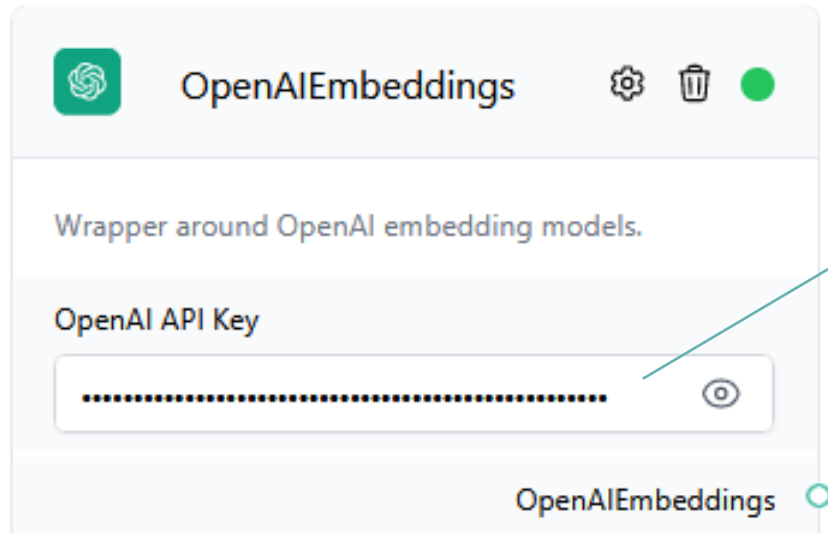
- Enter it here
- DO NOT SHARE THIS WITH ANYONE

CHROMA (VECTOR DB)

Chicken

Wolf

Dog

Cat

[0.34, 2.35, 8.34, …]
300 dimensions

Banana

Apple

Chicken

Wolf

Dog

Cat

Query:
Kitten

[0.34, 2.35, 8.34, …]
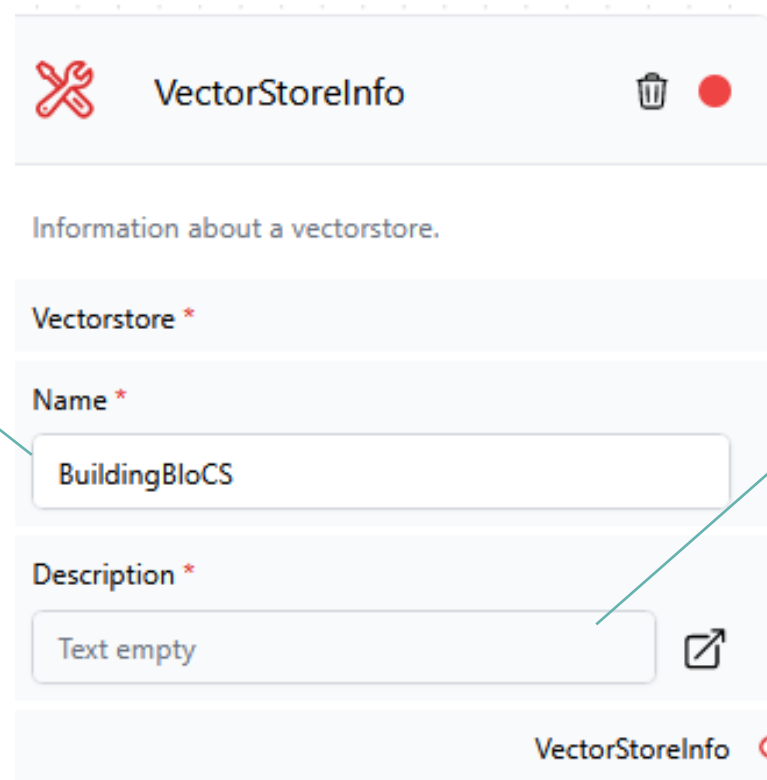300 dimensions

Banana

Apple
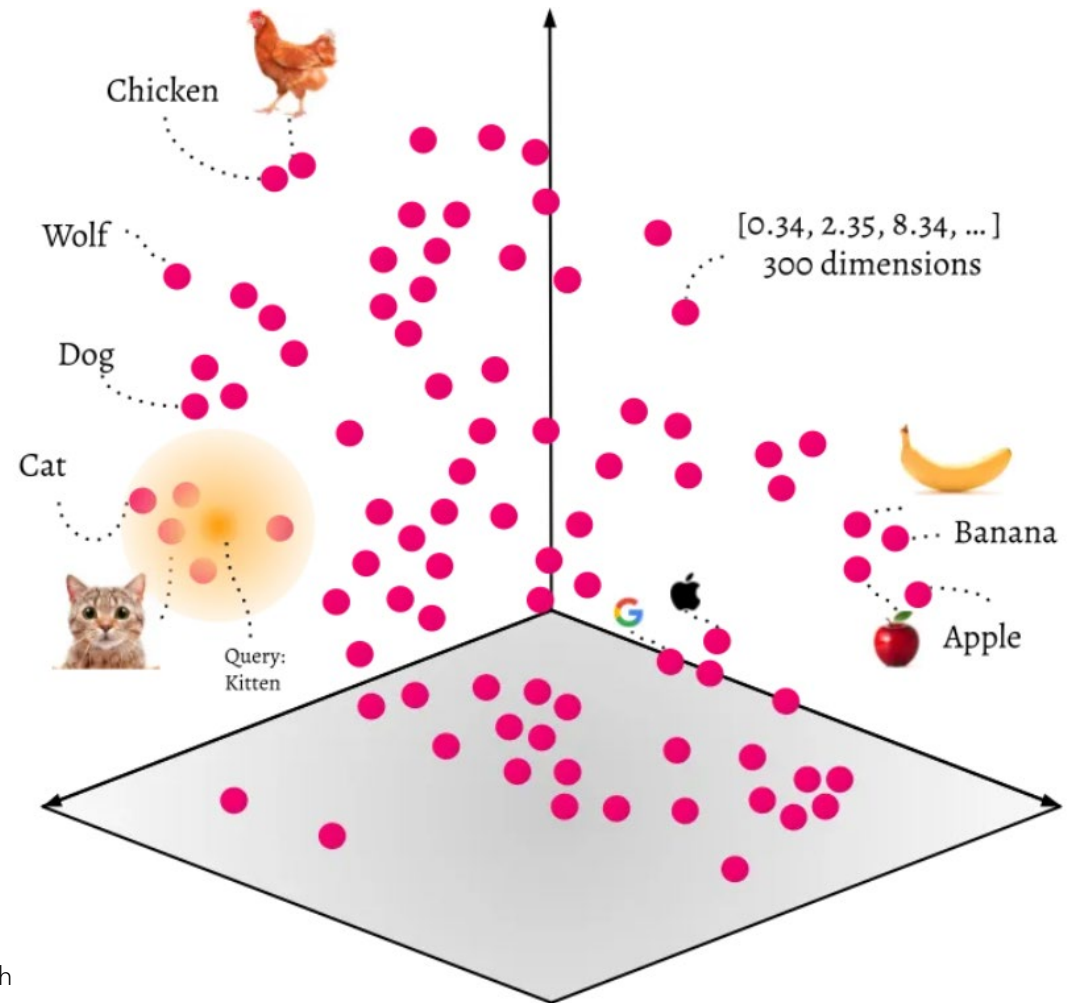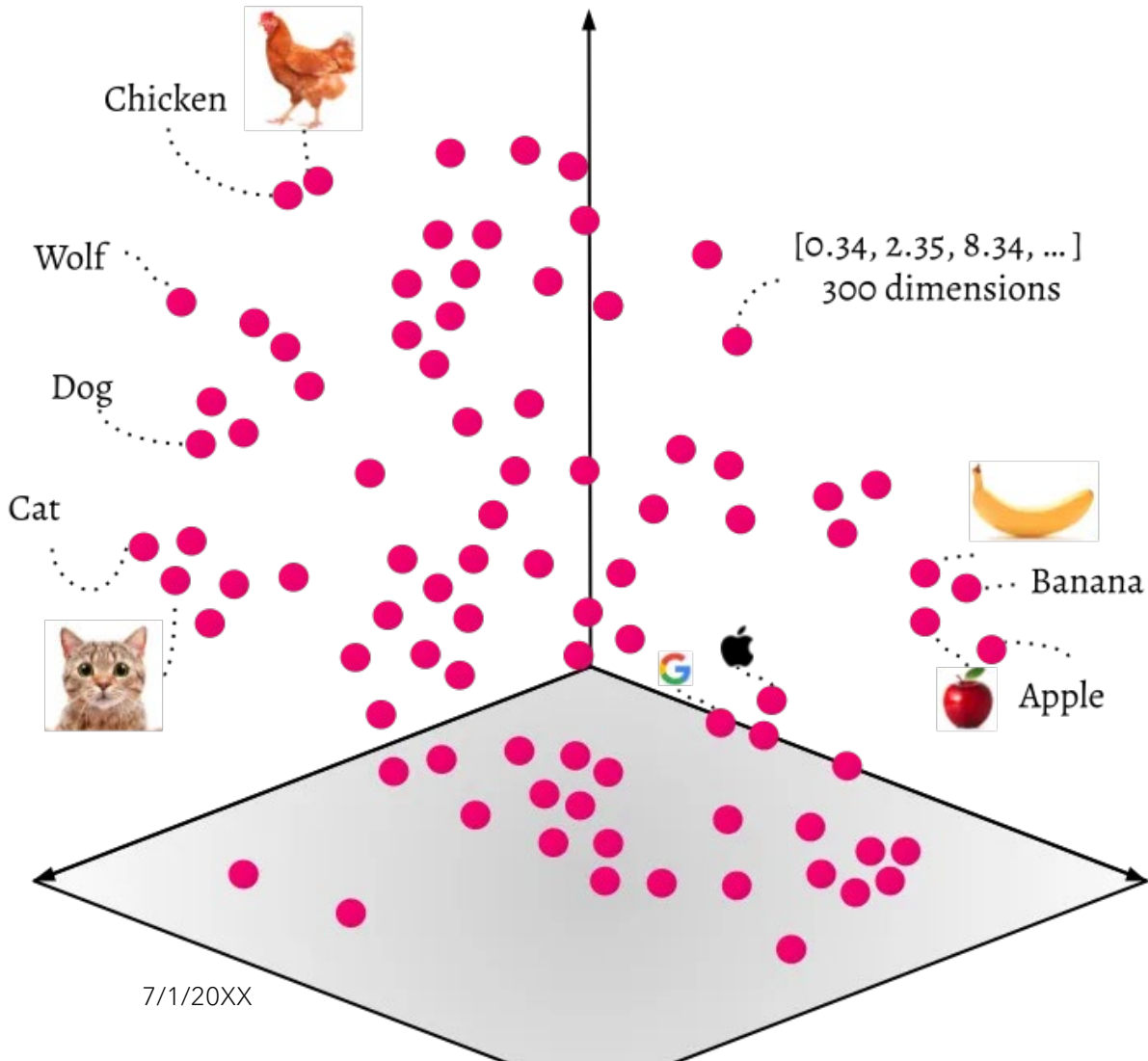
CHROMA (VECTOR DB)

- Stores all the information relating your documents with OpenAI Embeddings

- Combine your information & OpenAI Embeddings together

TOOLS: VECTORSTOREINFO

- Drag & Drop: Toolkits -> Vectorstoreinfo into white space

  - Enter name related to docs

- Enter Description of File you used

TOOLS: VECTORSTOREINFO

- Reads the information of your newly created Vector DataBase with Chroma

- Ready to Use!

LLM: OPENAI / CHATOPENAI

- Drag & Drop: LLM -> OpenAI

COPY API KEY HERE! (SLIDE 14)
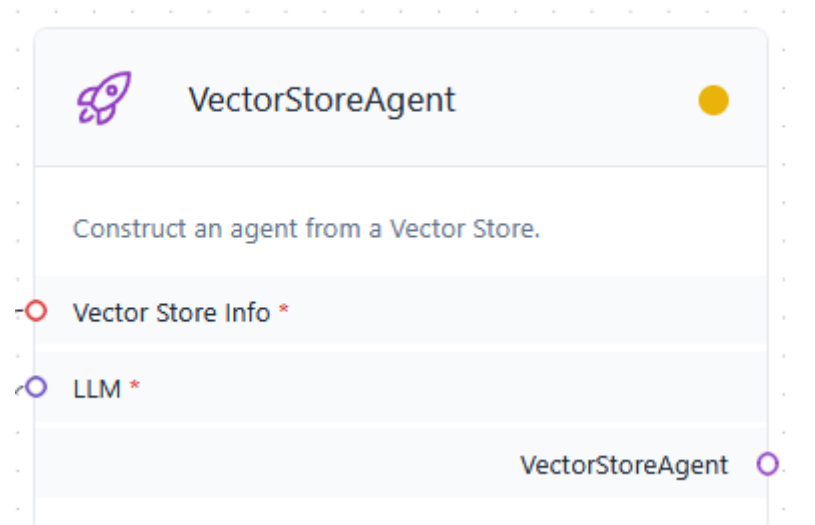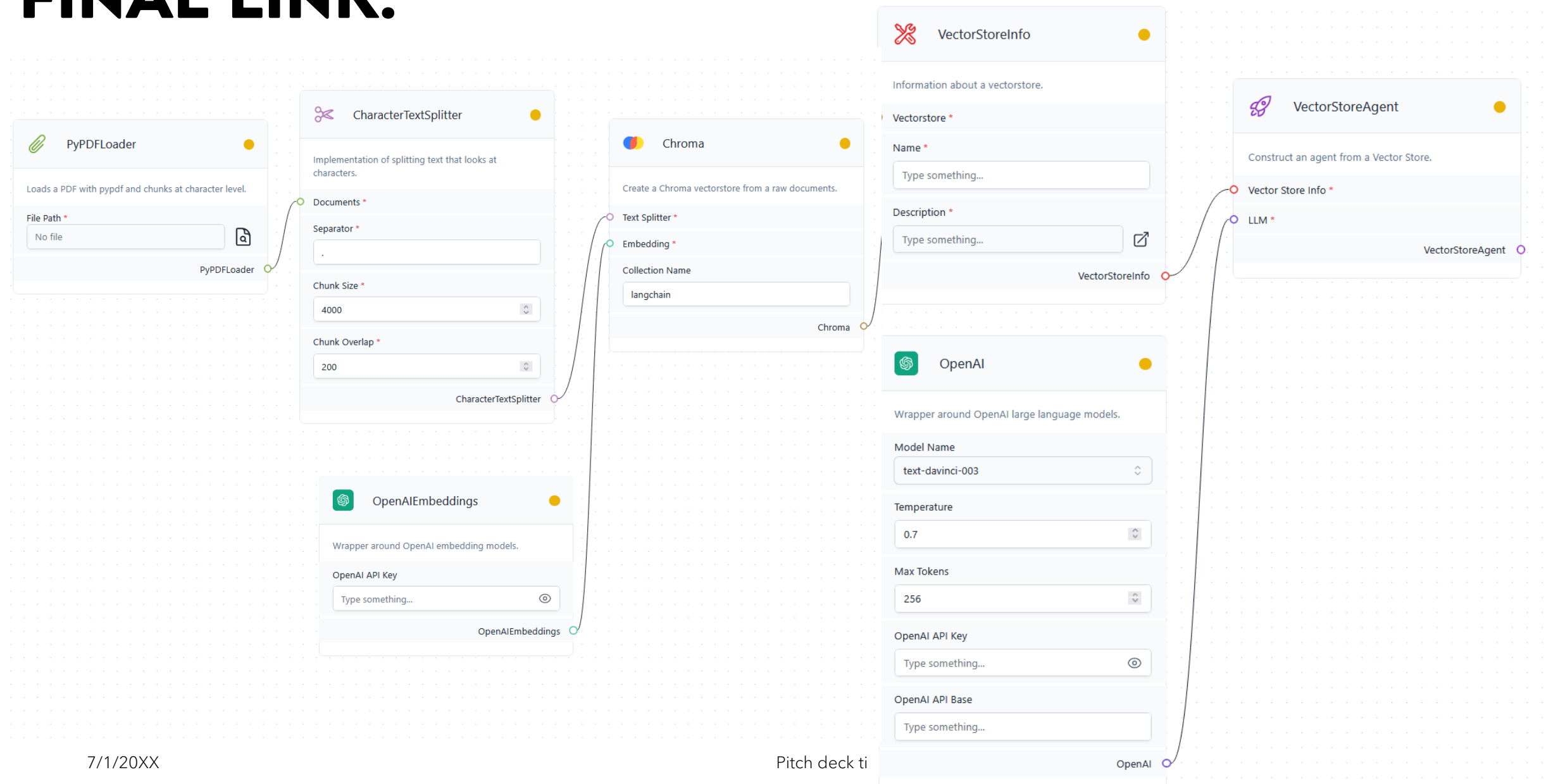
AGENT: VECTORSTOREAGENT

- Drag & Drop: Agents -> Vectorstoreagent into white space

AGENT: VECTORSTOREAGENT

- Use the VECTORSTORETOOLKIT which reads information from the PDF

- Similarity Search in the Vector DB

- Give Results

FINAL LINK:

PyPDFLoader

Loads a PDF with pypdf and chunks at character level.

File Path *

No file

PyPDFLoader

CharacterTextSplitter

Implementation of splitting text that looks at characters.

Documents *

Separator *

.

Chunk Size *

4000

Chunk Overlap *

200

CharacterTextSplitter

Chroma

Create a Chroma vectorstore from a raw documents.

Text Splitter *

Embedding *

Collection Name

langchain

Chroma

OpenAIEmbeddings

Wrapper around OpenAI embedding models.

OpenAI API Key

Type something...

OpenAIEmbeddings

VectorStoreInfo

Information about a vectorstore.

Vectorstore *

Name *

Type something...

Description *

Type something...

VectorStoreInfo

OpenAI

Wrapper around OpenAI large language models.

Model Name

text-davinci-003

Temperature

0.7

Max Tokens

256

OpenAI API Key

Type something...

OpenAI API Base

Type something...

OpenAI

VectorStoreAgent

Construct an agent from a Vector Store.

Vector Store Info *

LLM *

VectorStoreAgent

COMMON ERRORS:

- LLAMA-CPP build fail:
- https://visualstudio.microsoft.com/downloads/?q=build+tools


∨ **Tools for Visual Studio**

Build Tools for Visual Studio 2022

These Build Tools allow you to build Visual Studio projects from a command-line interface. Supported projects include: ASP.NET, Azure, C++ desktop, ClickOnce, containers, .NET Core, .NET Desktop, Node.js, Office and SharePoint, Python, TypeScript, Unit Tests, UWP, WCF, and Xamarin. Use of this tool requires a valid Visual Studio license, unless you are building open-source dependencies for your project. See the Build Tools license for more details.

Are you looking for one of the Visual Studio 2022 long term servicing baselines (LTSCs)? You can find them here.

Download
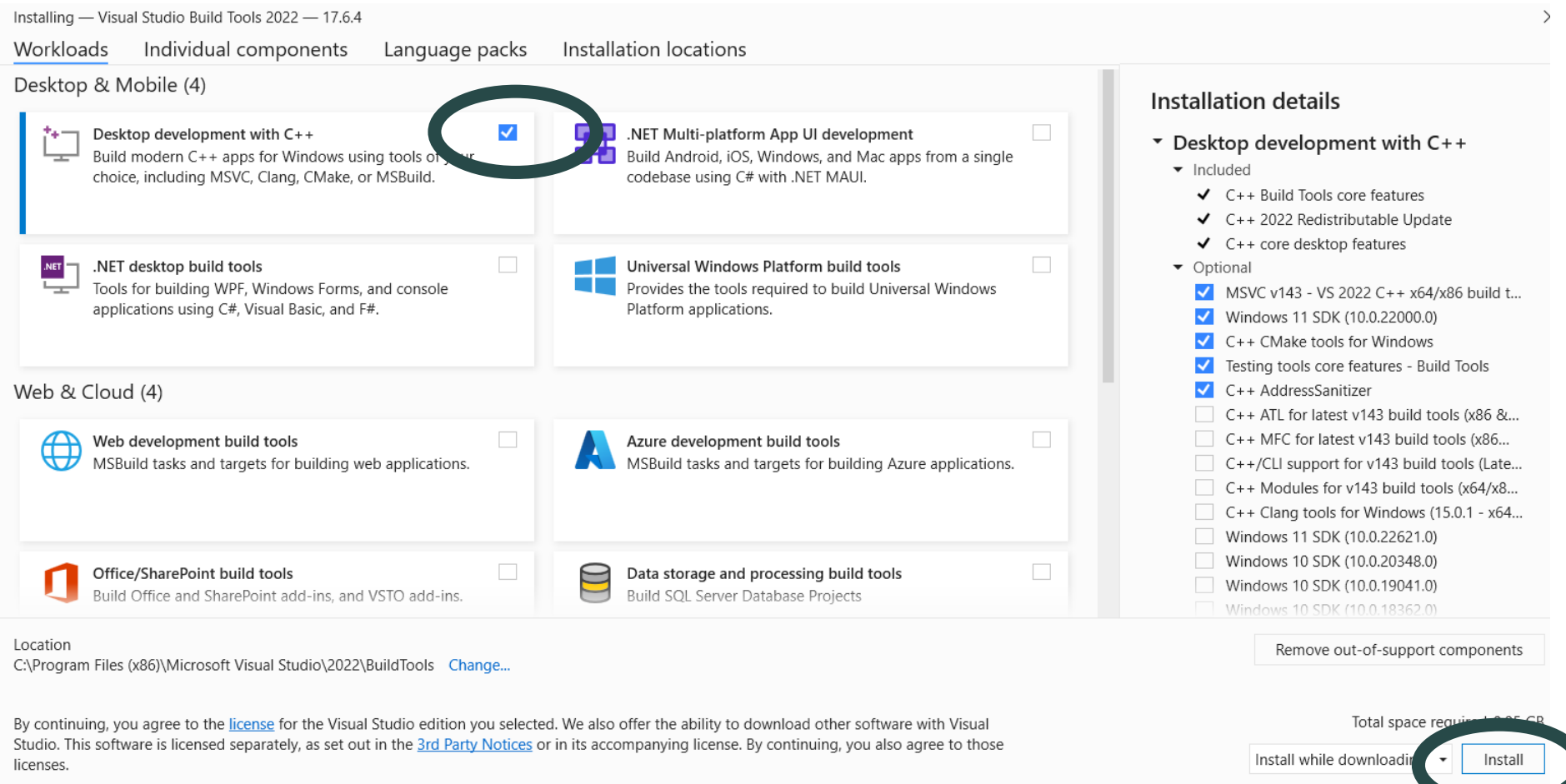
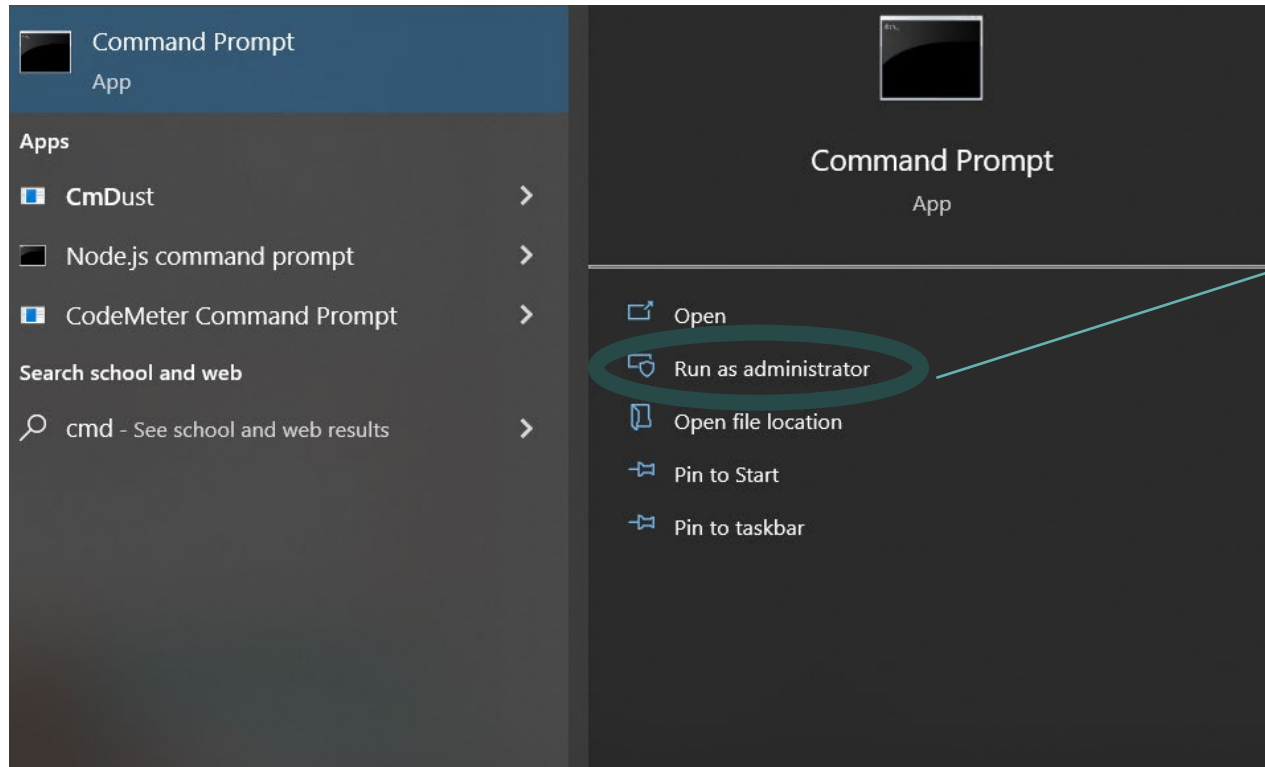# COMMON ERRORS:

- Restart
- Rerun:
- pip install langflow

COMMON ERRORS:

- Pip cannot install packages:

Run:
pip install langflow

END ☺