

Generative AI Syllabus

Muhammad Qasim: <https://www.linkedin.com/in/sirqasim/>

Zia Khan: <https://www.linkedin.com/in/ziaukhan/>

I. Typed Python Crash Course

Installation:

Install Anaconda:

<https://www.anaconda.com/download>

Note:

<https://saturncloud.io/blog/solving-the-conda-command-not-found-issue-after-installing-anaconda3/>

Install VS Code: <https://code.visualstudio.com/>

Typing Cheet sheet:

https://mypy.readthedocs.io/en/stable/cheat_sheet_py3.html#cheat-sheet-py3

Also read: <https://docs.python.org/3/library/typing.html>

Docs:

<https://mypy.readthedocs.io/en/stable/>

Install Python Plugin:

<https://marketplace.visualstudio.com/items?itemName=ms-python.python>

Install Pylint as Linter:

<https://github.com/pylint-dev/pylint>

Black as code formatter:

<https://black.readthedocs.io/en/stable/index.html>

Read this Document for Reference:

<https://python.plainenglish.io/typed-python-for-typescript-developers-791145e7171c>

Learn Python:

1. From TypeScript to Python: A Beginner's Guide to Language Basics
<https://medium.com/@frazghuman/key-differences-and-similarities-between-typescript-and-python-basics-98a3f93ccbf7>
2. Python Crash Course, 3rd Edition: A Hands-On, Project-Based Introduction to Programming 3rd Edition by Eric Matthes

https://www.amazon.com/Python-Crash-Course-Eric-Matthes/dp/1718502702/ref=sr_1_2

3. Resources for Python Crash Course

https://ehmatthes.github.io/pcc_3e/

II. Learn Langchain, Pinecone, and LLMs

1. What is LangChain? Easier development around LLMs

<https://www.infoworld.com/article/3706289/what-is-langchain-easier-development-around-llms.html>

2. LangChain Crash Course for Beginners Video

<https://www.freecodecamp.org/news/learn-langchain-for-llm-development/>
<https://www.youtube.com/watch?v=IG7Uxts9SXs>

3. LangChain for LLM Application Development

<https://www.deeplearning.ai/short-courses/langchain-for-llm-application-development/>

4. LangChain: Chat with Your Data

<https://www.deeplearning.ai/short-courses/langchain-chat-with-your-data/>

5. A Gentle Intro to Chaining LLMs, Agents, and utils via LangChain

<https://towardsdatascience.com/a-gentle-intro-to-chaining-llms-agents-and-utils-via-langchain-16cd385fca81>

6. The LangChain Cookbook - Beginner Guide To 7 Essential Concepts

<https://www.youtube.com/watch?v=2xxziIWmaSA&list=PLqZXAkV1bPNQER9mLmDbntNfSpzdDIU5&index=4&t=1092s>

7. Greg Kamradt's LangChain Youtube Playlist

<https://www.youtube.com/playlist?list=PLqZXAkV1bPNQER9mLmDbntNfSpzdDIU5>

8. 1littlecoder LangChain Youtube Playlist

<https://www.youtube.com/playlist?list=PLqZXAkV1bPNQER9mLmDbntNfSpzdDIU5>

9. Pinecone

<https://docs.pinecone.io/docs/quickstart>
<https://python.langchain.com/docs/integrations/vectorstores/pinecone>

10. LangChain - Vercel AI SDK

<https://sdk.vercel.ai/docs/guides/providers/langchain>

11. Using Python and Flask in Next.js 13 API

<https://github.com/wpcodevo/nextjs-flask-framework>
<https://vercel.com/templates/python/flask-hello-world>
<https://vercel.com/docs/functions/serverless-functions/runtimes/python>
https://codevoweb.com/how-to-integrate-flask-framework-with-nextjs/#google_vignette
<https://github.com/vercel/examples/tree/main/python>
<https://github.com/orgs/vercel/discussions/2732>
<https://flask.palletsprojects.com/en/2.3.x/tutorial/>
<https://flask.palletsprojects.com/en/2.3.x/>

Reference Material:

LangChain Official Docs

https://python.langchain.com/docs/get_started/introduction

LangChain AI Handbook

<https://www.pinecone.io/learn/series/langchain/>

Top 5 Resources to learn LangChain

<https://medium.com/@ankity09/top-5-resources-to-learn-langchain-e2bdbbd11702>

Official LangChain YouTube channelLangchain

https://python.langchain.com/docs/additional_resources/youtube

Projects

1. Building Custom Q&A Applications Using LangChain and Pinecone Vector Database
<https://www.analyticsvidhya.com/blog/2023/08/qa-applications/>
2. End to End LLM Project Using Langchain | NLP Project End to End
<https://www.youtube.com/watch?v=MoqgmWV1fm8>
3. Build and Learn: AI App Development for Beginners: Unleashing ChatGPT API with LangChain & Streamlit
https://www.amazon.com/Build-Learn-Development-Beginners-Unleashing/dp/B0CDNNC5Z1/ref=tmm_pap_swatch_0?encoding=UTF8&qid=1695978776&sr=8-1