**Curriculum Outline**

**Bootcamp Goal**

**The Problem**

The applications and benefits around GenAI have been hyped due to rampant VC investment resulting in confusion and mismatched expectations. From Devs, DOEs and VPs there is technical and business uncertainty around GenAI.

**Target Audience**

The goal of this bootcamp is to help the tech industry as a whole:

* To understand both the landscape and boundaries of GenAI
* To critically think and troubleshoot how to build real-world GenAI workloads

This bootcamp aims to tackle all levelsfrom Beginner to Expert to Enterprise and will use a Maturity Model approach to learning. eg.

Level 100 — Beginner

* AI Powered Assistants and Prompt Engineering

Level 200 — Intermediate

* AI as a Service and Cloud Services
* Building agents locally with open-source models and Langchain

Level 300 — Advanced

* Training, Optimization, Quantization

Level 400 — Enterprise / Expert

* Deploying for production
* Rightsizing for Compute eg. AI Accelerators

**Spend Considerations**

While we will do our best to utilize free-tier services, some videos may require spend.

We will do our best to point out possible spend-traps and best practices to avoid spend.

**You are responsible for your own costs and you need to be diligent about cloud spend.**

**Cloud Spend (OPEX)**

* Generous free-tiers
* Metered-billing  (You pay only for what you use)
  + Unexpected spend due to misconfigurations or forgotten running resources
* \*Less configuration challenges
* More options of compute

**AI PC (CAPEX)**

* You pay upfront a single time cost
* What you have is what you have
* If it breaks, then you are done (get the warranty)

**Technology Requirements**

We are going to be using a mix of cloud-based compute and local compute.

**Andrew’s Specs:**

During this bootcamp Andrew will be utilizing a range of local hardware and software:

|  |  |  |
| --- | --- | --- |
| Apple | Windows Main | Intel AI PC DevKit |
| * Apple M1 Pro (2021) * 16 GB RAM * 1 TB storage * macOS Sonoma 14.5 | * i5-6500 (2015) * Geforce RTX 3060 12GB * 64 GB RAM * Windows 10 * WSL 1 | * Lunar Lake (2024) * 32 GB RAM * 512 GB storage * Windows 11 * WSL 2 |

There may be instructional videos you will not be able to perform since there is a hard-requirement for specific local hardware.

**AI PC Consideration**

In 2025, “AI PCs” will be more common for developer’s local workflows which is a special type of CPU that includes additional capabilities like iGPU and NPUs.

AI PCs will allow you to run a wider range of AI Models and LLMs locally without the need to buy a expensive graphics card.

If you want to follow through with the instruction videos for local compute with minimal issues we recommend getting an AI PC.

**Prerequisite Knowledge**

* GenAI Essentials Course (Strongly Recommended)
  + This course contains all fundamental GenAI content for all levels.
  + Do your best to progress as far through these materials as possible before the start of the bootcamp.
* [Python for Beginners](https://www.youtube.com/watch?v=eWRfhZUzrAc&list=PLWKjhJtqVAbnqBxcdjVGgT3uVR10bzTEB)
* [PyTorch for Beginners](https://www.youtube.com/watch?v=V_xro1bcAuA)
* [Tailwind CSS for Beginners](https://www.youtube.com/watch?v=ft30zcMlFao)
* [React for Beginners](https://www.youtube.com/watch?v=DLX62G4lc44&list=PLWKjhJtqVAbkArDMazoARtNz1aMwNWmvC)
* [GitHub Foundations](https://www.youtube.com/watch?v=Jdc0i7RcBv8&t=1462s)

>  GenAI Essentials Course will be out in early November.

**What about AI Cloud Certifications?**

There are specific cloud certifications for AI and GenAI  eg. AI-900, AI-102, AIF-C01, NCA-GENL

While these do teach AI and GenAI they are often focused around a specific vendor’s AI offering and will be missing fundamental broad AI knowledge. While you can complete these courses to prepare for this bootcamp be aware of their limitations.

**Prerequisite Technologies**

> This has not been finalized yet, please wait for further instructions.

> The instructions to set up all these accounts will be in the official playlist.

* AWS Account
* Azure Account
* GCP Account
* Intel Tiber Developer Cloud
* CIVO Account
* Hugging Face Account
* Lighting.AI
* GitHub Account
* Gitpod Account
* GitHub Codespaces
* MongoDB Account
* Lucid Charts
* Vercel / v0

**Time Commitment**

Let’s fully detail the time a student will need to commit to fully experience this bootcamp over the 6 weeks:

|  |  |
| --- | --- |
| **Task** | **Estimated Time** |
| **Prerequisite Knowledge**  This is strongly recommended knowledge you will want to obtain prior to the course.  The time commitment can greatly vary, so we’ll provide an average amount of time committed | 10 hours |
| **Prerequisite Technologies**  You need to register specific cloud service accounts. This needs to be performed before the course starts | 2 hour |
| **Classroom time**  Each class is time-blocked for 2 hours.  Let’s also assume you might want to watch back the video and you are attending AfterClass QnA | 3 hours per week  6 weeks = 18 hours |
| **Homework time**  After each live-class there is a series of videos you need to complete.  Homework is not necessary to complete, you will be provided multiple challenges to perform on your own.  It's your decision to decide how much time you wish to commit to homework. | 4-10 hours per week  6 weeks = 24-60 hours |
| **Student Discussion**  In the Discord and email, we’ll send simple polls. We’ll have office hours where you can optionally attend. | 1 hour per week  6 weeks = 6 hours |
| **Total Time Commitment** | 54-90 hours |

**Project Requirements**

All Students must Create a new repository exactly called gen-ai-bootcamp-2025

* The repo must be public
* Do not clone the example repo:
  + Eg. do not clone ExamProCo/gen-ai-bootcamp-2025,
  + eg. do not clone omenking/gen-ai-bootcamp-2025
* Do not fork the example repo
  + eg. do not fork ExamProCo/gen-ai-bootcamp-2025,
  + eg. do not fork omenking/gen-ai-bootcamp-2025