**Course Title**: Open Source Models with Hugging Face

**Provider**: deeplearning.ai

**Completion Date**: 09/29/24

**Duration**: 1 hour

**Key Skills Learned**:

* Turn a small language model into a chatbot that is capable of multi-turn conversations and to answer follow-up questions
* Translate between different languages, summarize documents, and measure similarities between two pieces of text
* Convert audio to text and convert text to audio using automatic speech recognition and text to speech respectively
* Combining object detection and text to speech models to generate audio narration to describe an image

**Relevance to the Project**:

* To use ChatGPT or some other AI models to enhance the clustering and provide more personalized feedback

**Certification or Proof**:

* https://learn.deeplearning.ai/accomplishments/52bcd354-7c83-4045-a92c-ffb569912885?usp=sharing

**Course Title**: Pretraining LLMs

**Provider**: deeplearning.ai

**Completion Date**: 10/01/24

**Duration**: 1 hour

**Key Skills Learned**:

* Build a high-quality training dataset using pre-existing datasets and online texts
* Cleaning of data using deduplication, quality and content filtering, privacy reduction, and rule-based cleaning
* Configure and initialize the weights of a model as well as observe how those decisions effect pretraining speed
* Evaluating a trained model’s performance

**Relevance to the Project**:

* To potentially pre-train or fine-tune an existing model to enhance the system’s ability to provide personalized feedback

**Certification or Proof**:

* https://learn.deeplearning.ai/accomplishments/55bac370-fc04-4cc2-b337-bfe09f8faae5?usp=sharing

**Course Title**: Learn MongoDB

**Provider**: codeacademy.com

**Completion Date**: 10/04/31

**Duration**: 5 hours

**Key Skills Learned**:

* A database stores and manages information electronically, supporting various data types
  + Relational databases use structured tables whereas non-functional databases (NoSQL) offer more flexibility without predefined schemas
* MongoDB stores data as BSON but allows to create and manipulate database data as JSON
* MongoDB’s .find() method retrieves documents from a collection and returns a cursor
* Utilized the .insertOne method to efficiently insert a single document into a collection
* Created a single-field index using the .createIndex() method to optimize query performance
* Applied the $match and $addFields operators in aggregation to filter records and add new fields

**Relevance to the Project**:

* To be able to navigate through the system’s database and potentially enhance its scalability and performance as more clients uses this application

**Certification or Proof**:

A close-up of a certificate

Description automatically generated

**Course Title**: Visualize Data with Python

**Provider**: codeacademy.com

**Completion Date**:

**Progress**: 22%

**Duration**: 7 hours

**Key Skills Learned**:

* Adding of labels and titles to graphs as well as creating legends, adjusting labels, and exporting a chart
* Creation of pie charts, bar charts with error bars, histograms with AB lines, and scatterplots

**Relevance to the Project**:

* Fix radar graph as well as improve the visualization of the PDF generated

**Certification or Proof**: