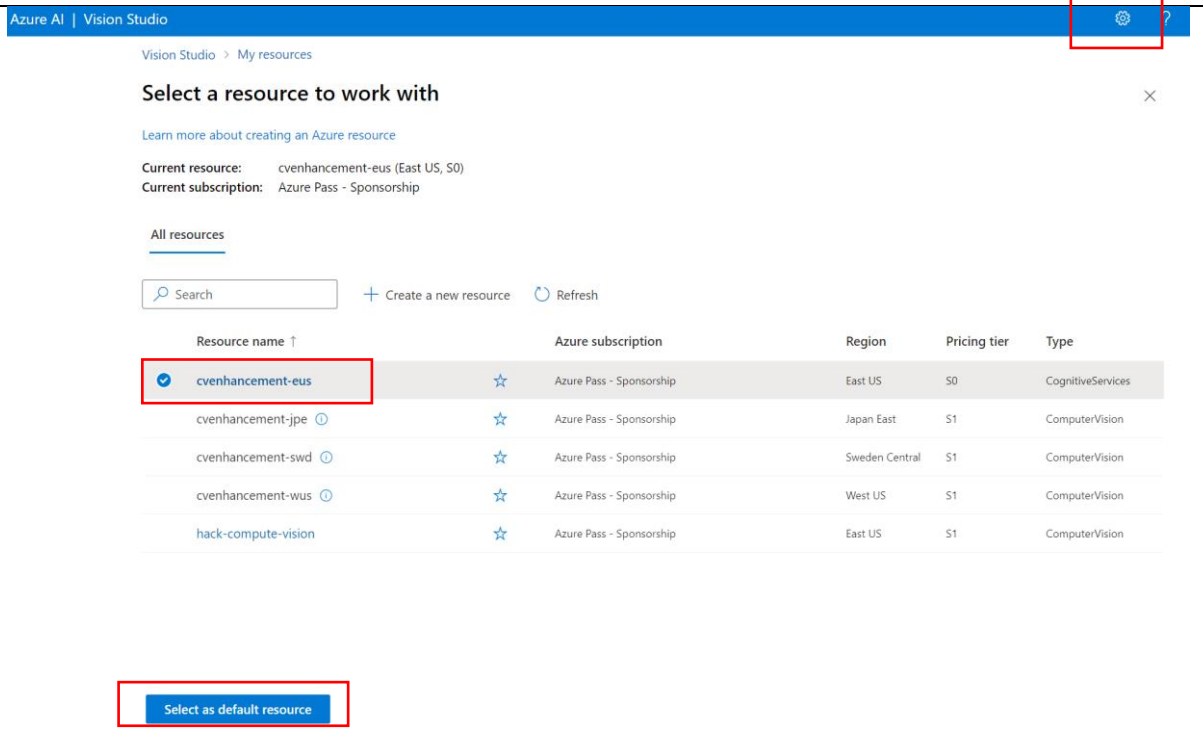
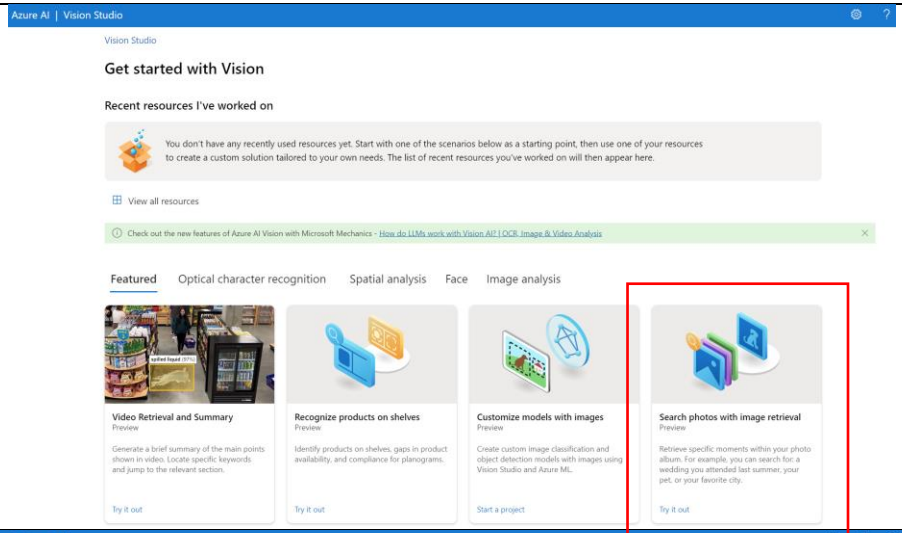
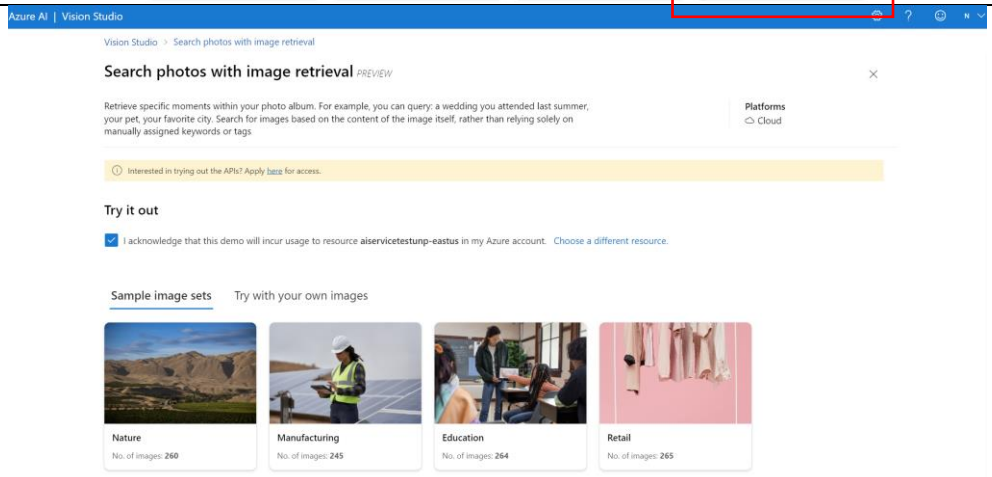
Lab 4 - Image Search with Vector Search

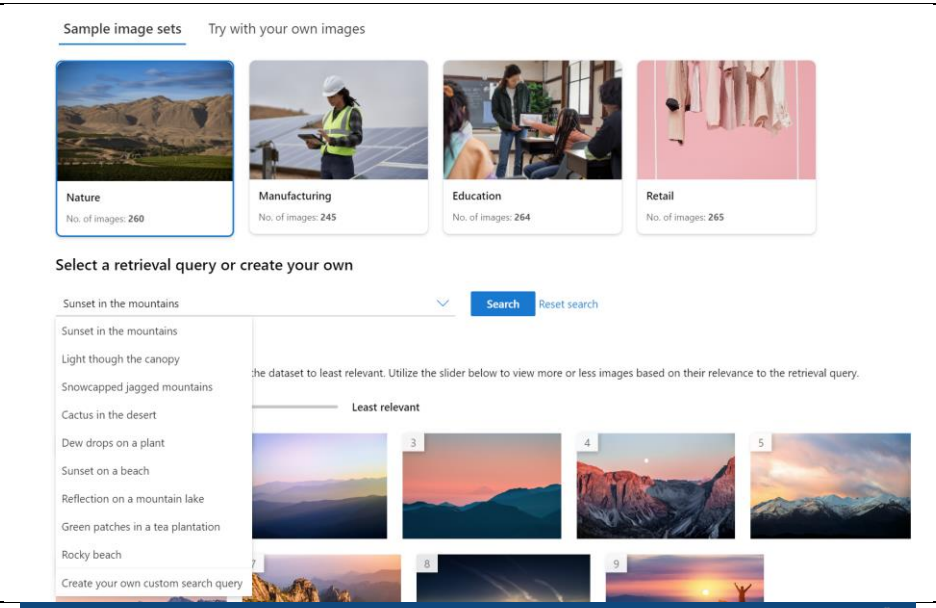
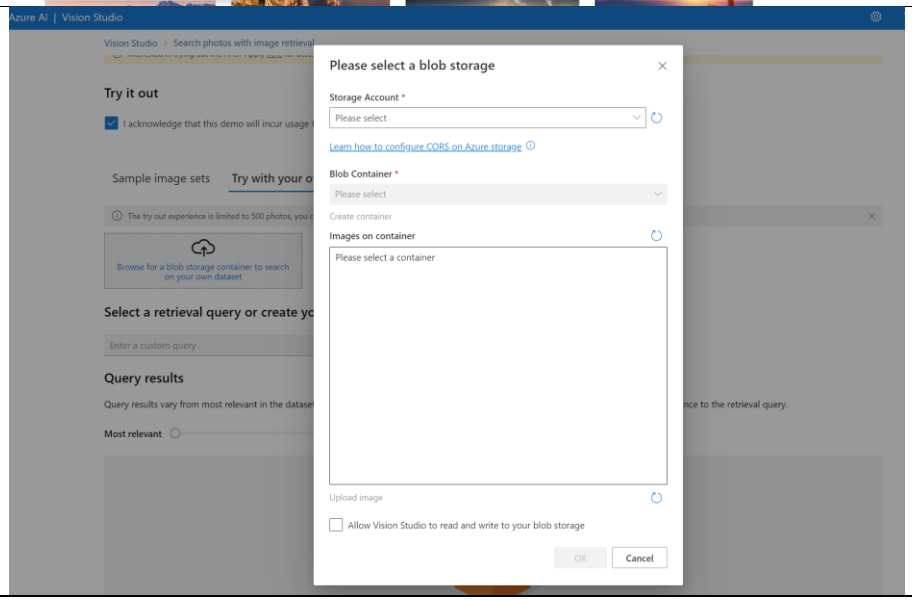
Contents

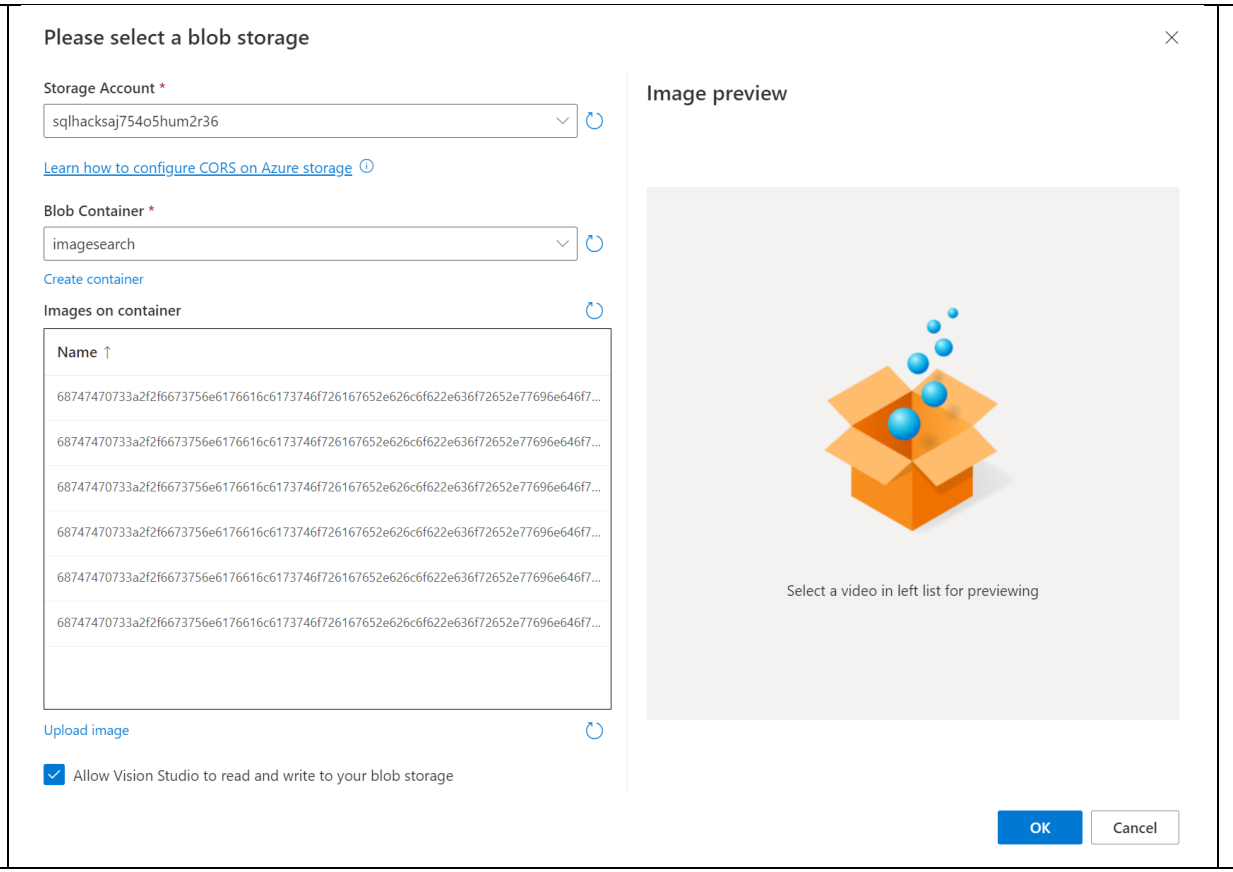
1. Multimodal Search in Vision Studio

The Image Retrieval APIs convert images and text queries into vectors, enabling semantic-based search without tags or metadata. Try it out in the Vision Studio.

Narrative	Screenshot	Notes
In a browser, navigate to the Vision studio: **Vision Studio (azure.com)** Go to the **Settings** (symbol in the upper right corner) and select East US Cognitive Services resource **"cvenhancement-eus"** as default resource (as presented on the screenshot). Click the **"Select as default resource"** on the bottom. It should be fine after clicking it once, even without a change confirmation.		

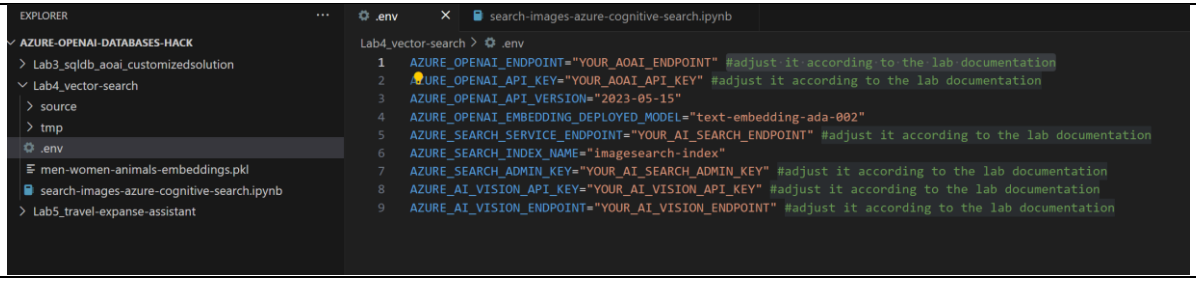
Switch back to the home page: **Vision Studio (azure.com)** Click on the feature **"Search photos with image retrieval"**.		
Tick the **acknowledgement** to use the resource **cvenhancement-eus.** If you cannot, move back to settings and set it as your resource (previous step).		

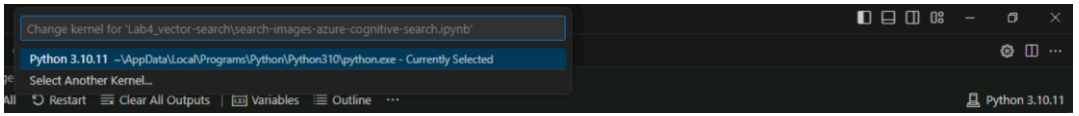
Now you can select an image among the **sample set**. Then, select a **retrieval query** in the dropdown menu. Alternatively, try to create your own query. Hit **Search**. You can check the query results and adjust from most to least relevant results with the slider bar.		
Optional: You can switch the tab to **try with your own images**. Select the blob storage account **"sqlhacksaj754o5hum2r36"**. Select the container **"imagesearch".** Check the next screenshot for an example.		


Please select a blob storage
Storage Account *
sqlhacksaj754o5hum2r36
Learn how to configure CORS on Azure storage
Blob Container *
imagesearch
Create container
Images on container
Name
68747470733a2f2f6673756e6176616c6173746f726167652e626c6f622e636f72652e77696e646f7...
68747470733a2f2f6673756e6176616c6173746f726167652e626c6f622e636f72652e77696e646f7...
68747470733a2f2f6673756e6176616c6173746f726167652e626c6f622e636f72652e77696e646f7...
68747470733a2f2f6673756e6176616c6173746f726167652e626c6f622e636f72652e77696e646f7...
68747470733a2f2f6673756e6176616c6173746f726167652e626c6f622e636f72652e77696e646f7...
68747470733a2f2f6673756e6176616c6173746f726167652e626c6f622e636f72652e77696e646f7...
Upload image
Allow Vision Studio to read and write to your blob storage
Image preview
Select a video in left list for previewing
OK
Cancel

2. Image Search in custom code solution

Now, let's try image search in a notebook.

Narrative	Screenshot	Notes
Back in **Visual Studio Code**, navigate to the repository again and go to the **Lab 4_vector-search** subfolder.		
Navigate to the **.env file** in Lab 4: "**Azure-OpenAI-Databases-Hack\Lab4_vector-search\.env**" Then fill out the values accordingly.		
Copy the following credentials into the .env file.	AZURE_OPENAI_ENDPOINT="https://sqloai-hack-0224.openai.azure.com/" AZURE_OPENAI_API_KEY="61c63d914d95464a816a4d4d0b9ac44d" AZURE_OPENAI_API_VERSION="2023-05-15" AZURE_OPENAI_EMBEDDING_DEPLOYED_MODEL="text-embedding-ada-002" AZURE_SEARCH_SERVICE_ENDPOINT="https://aisearch-eus.search.windows.net" AZURE_SEARCH_INDEX_NAME="imagesearch-index" AZURE_SEARCH_ADMIN_KEY="gFnanr3eBpybthAAkhGxXRkC23gFKiBozRAMwRdKJCAzSeCYFd56" AZURE_AI_VISION_API_KEY="f7f17dd6b8db44e18115364276c2bb19" AZURE_AI_VISION_ENDPOINT="https://hack-compute-vision.cognitiveservices.azure.com/"	

Open the **Notebook "search-images.ipynb"**. If you are prompted to install an **ipykernel**, do so by clicking "install". Afterwards, select the **python 3.10.11 kernel** on the top as shown in the screenshot. All following instructions can be found in the notebook comments. **Run through all cells** in the notebook to implement the required scenario.		
If you run into module related errors, make sure you have all required packages installed by running this cell:	# If you run into module related errors, make sure you have all required packages installed by running this cell: %pip install azure-search-documents==11.4.0b11 --pre %pip install azure-ai-vision==0.13.0b1 %pip install azure-search --pre --upgrade %pip install azure-core --pre --upgrade %pip install matplotlib Allow the firewall to download the software.	