## HKU COVID-19 Digital Archives

https://covid19.lib.hku.hk

# **HKU COVID-19 Digital Archives**

by K. M. Ku

Library

(Project No.: KE-SI-2022/23-98)

**Strategic Theme(s):** 

Health and Medical Technologies

Use of IT in Education

### Foreword

- This project aims to collect, preserve and provide access to the digitally born records relating to the COVID-19 created by The University of Hong Kong. A designated <u>Digital Archives</u> that serves as a centralised repository of all HKU produced digital materials including electronic scholarly articles, publications, research data and media presentations in audio-visual formats. Other records of major HKU-sponsored activities such as the LYH Community Vaccination Centre and the LoveULoveHK initiative will also be included.
- This project will try to cover all outputs from all departments, faculties and administrative units as extensive as possible. The final digital platform will serve as <u>public access point</u> and will be searchable and be accessible by local and international communities within the allowance of copyright and privacy ordinance.

CATEGORIES

TIMELINES

STORIES

PEOPLE

INTERACTBOT

Search...

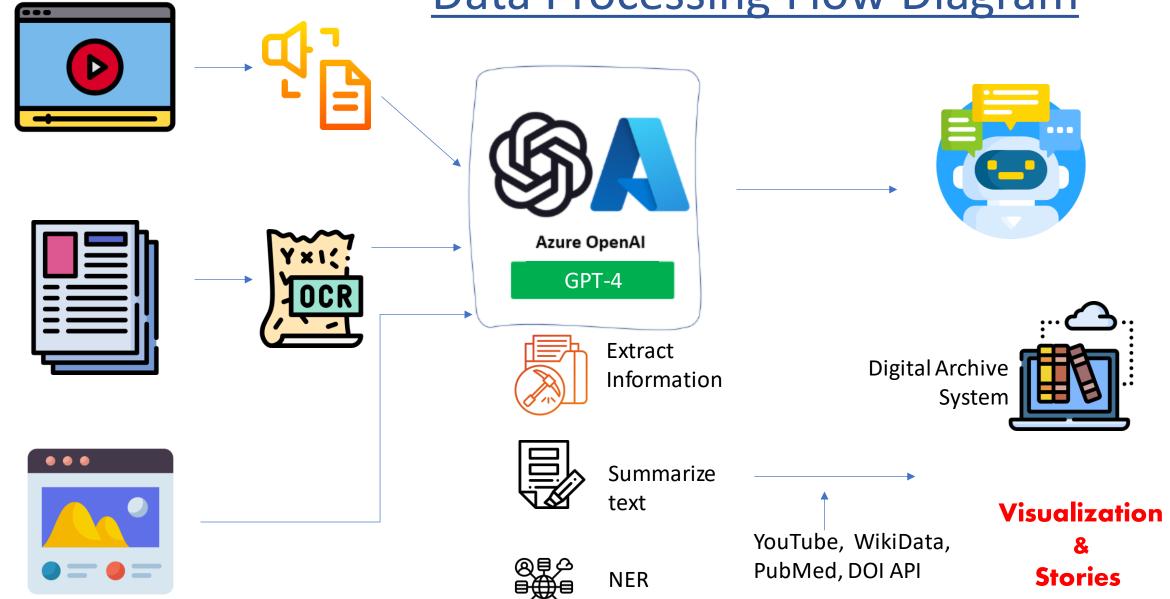
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Overview

# Discover HKU COVID-19

## **Data Processing Flow Diagram**



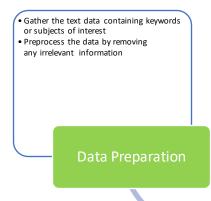
# Al Approach

Application of Large Language Models, powered by OpenAI and **Microsoft Azure** 

Tasks can be performed:

- Text and entity extraction, text summarization
- Speech recognition
- Chatbot

Application of K-means clustering for keyword/subject clustering using Unsupervised Machine Learning Methodology:



#### Word Embedding

- · Vectorize the preprocessed text data into numerical representations
- Word embedding captures the semantic meaning and relationships between words

Determine the Number of Clusters

Decide on the optimal number of clusters

· Employ techniques like elbow method or

(k) for the k-means algorithm

silhouette analysis for k value



Speech recognition/ Entity extraction



Chatbot

#### Apply Kmeans Clustering

- · Group the feature vectors into k clusters
- · Initialize k centroids
- · Assign each feature vector to the nearest centroid based on Euclidean distance
- Update the centroids by calculating the mean of the feature vectors in each
- · Repeat the steps until convergence

- Fine-tune the clustering process by adjusting parameters, preprocessing techniques
- Iterate the process by incorporating additional data

Refine and Iterate

## Video on Facebook, Instagram and Web sites

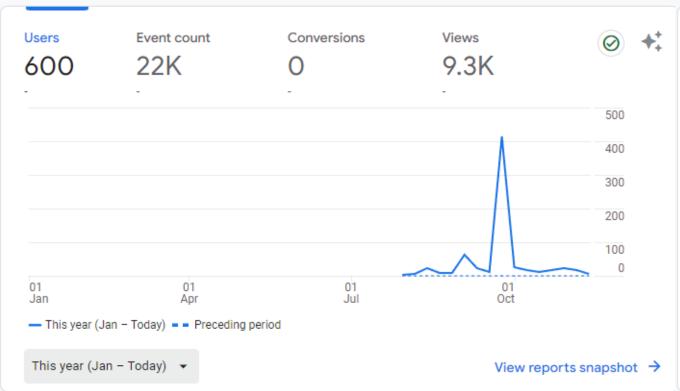


## Reach to general public



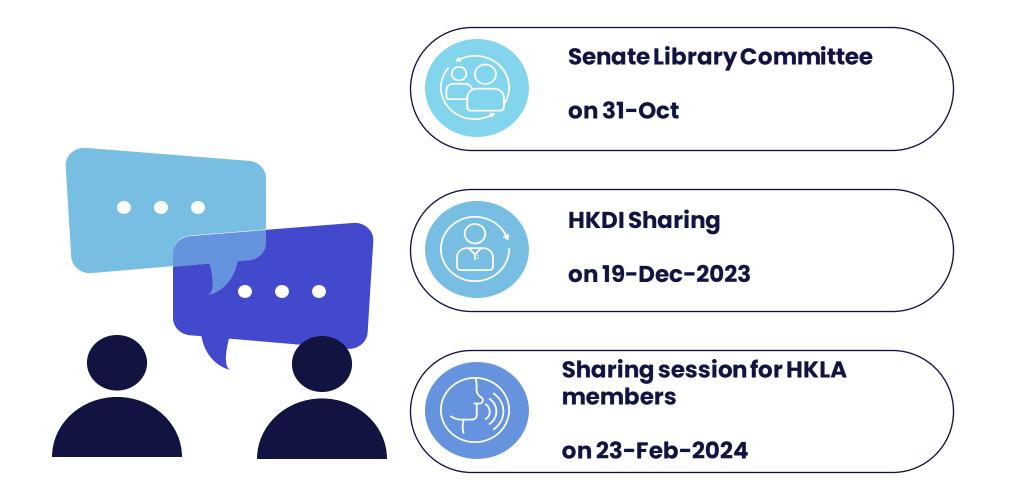
https://www.instagram.com/reel/CwFIU3Sv1\_x

https://www.facebook.com/hkulib/videos/273199135 452566/?mibextid=zDhOQc





### (Knowledge Exchange activities record and photos)



Members of VTC Group VTC 編構成員

HKDI & IVE(LWL) Learning Resources Centre 學習資源中心

### AI UNVEILED:

UNDERSTANDING THE ESSENCE AND IMPACT OF ARTIFICIAL INTELLIGENCE

DECEMBER 19, 2023 TUESDAY

3:30pm - 5:00pm

STUDIO INFINITY

(C714D, Inside LRC)

Hong Kong Design Institute

#### SPEAKER : DR. KU KAM M<u>ING</u>

Associate Librarian of Technical Support Services, The University of Hong Kong



Join us via MyPortal or Scan:



\*For Staff Members: 1.5 hours CPD will be centrally uploaded onto the HRMIS for attending the training







#### **CONSTRUCTING HKU COVID-19 DIGITAL ARCHIVES:**

#### HARNESSING AI FOR BUILDING COMPREHENSIVE RESEARCH COLLECTION

The speakers will discuss HKU Libraries'
journey in constructing a digital archive
capturing works from HKU researchers during
the pandemic. Despite limited resources, they
leveraged technology to curate a
comprehensive collection in six months.

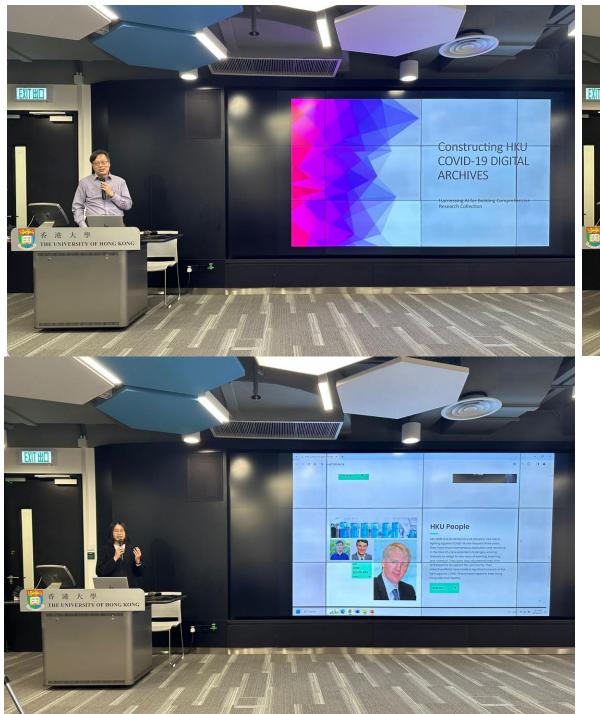


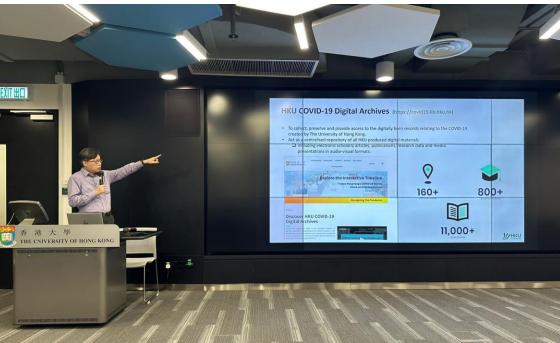


This seminar will be conducted in English and supplemented with Cantonese



https://hkla.org/announcement/constructing-hku-covid-19-digital-archives-harnessing-ai-for-building-comprehensive-research-collection/







#### KE outcomes and impact

The University of Hong Kong (HKU) has been at the forefront of battling the virus, and their contributions and efforts have been captured and showcased in the COVID-19 digital archives which serves as a testament to the impact and outcome of HKU's response to the pandemic.

The archives showcasing HKU's battle against COVID-19 has had several significant impacts:

- 1. Awareness and Understanding: It has increased public awareness and understanding of the university's efforts in combating COVID-19.
- 2. Knowledge Dissemination: It serves as a platform for sharing knowledge and insights gained from HKU's research and experiences.
- 3. Inspiration and Empowerment: By sharing the challenges, successes, and lessons learned, HKU has provided a blueprint for others to navigate the pandemic and overcome its challenges.
- 4. Global Impact: By sharing HKU's research findings and expertise, our collaborative approach has helped to shape the global response to the pandemic.
- 5. Community Support: It highlights HKU's commitment to supporting its community during the pandemic.
- 6. Institutional Reputation: It has enhanced HKU's reputation as a leading institution in the battle against COVID-19.

Overall, the project has had far-reaching impacts, ranging from increased awareness and understanding to global collaborations and the empowerment of individuals and institutions.

### 知識交流的成果和影響

香港大學(HKU)一直站在抗擊病毒的前沿,他們的貢獻和努力已收錄和展示在COVID-19數字檔案庫中,引證了HKU對疫情的回應所帶來的成果和影響如下:

- 1. 意識和理解:它提高了公眾對HKU在抗擊COVID-19方面努力的認識和理解。
- 2. 知識傳播:它作為一個平台,分享了從HKU的研究和經驗中獲得的知識和見解。
- 3. 啟發和賦權:通過分享挑戰、成功和經驗教訓,HKU為他人在應對疫情和克服困難方面提供了藍圖。
- 4. 全球影響:通過分享HKU的研究成果和專業知識,並和其它機構合作方法有助於塑造全球應對疫情。
- 5. 社區支持:它凸顯了HKU在疫情期間對支持社區的抗疫貢獻。
- 6. 機構聲譽:它提升了HKU作為領先機構在抗擊COVID-19方面的聲譽。

總的來說,這個項目產生了廣泛的影響,從提高意識和理解到全球合作和個人機構的賦權。



# Acknowledgements

A heartfelt thank you to the people who contributed to the success of this project

