



Future of Hospital : ChatGPT AI-based Application for Healthcare Clinical 淺談生成式 AI 暨 醫療產業的應用



台灣微軟 首席醫療產業顧問 - 劉致宏 James Liu

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Microsoft 365 Copilot

何謂ChatGPT? 什麼是生成式AI? 目前全球趨勢的分享

ChatGPT 2022 年 11 月公開使用, 5 天註冊超過 100 萬, 2 個月達到 1 億
2028 年生成式 AI 預估將達 63.1 B/USD · CAGR 33.7% (GlobeNewswire)

Beyond ChatGPT: The Future of Generative AI for Enterprises

Gartner®

在不同行業和企業中的案例和趨勢，
例如利用 GPT-3 生成人類般的文本，
或利用 DALL-E 創造新的圖像



30%

市場訊息生成



90%

電影生成

The CEO's Guide to the Generative AI Revolution

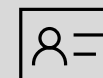
BCG

Andrej(OpenAI)：最熱、最新的程式語言就是“英文”，因為自然語言生成能力使非專家也能開發程式



seconds

研究與學習成本



員工職責重定義

Using generative AI for IoT: 3 generative AIoT applications beyond ChatGPT

IOT ANALYTICS
MARKET INSIGHTS FOR THE INTERNET OF THINGS



生成式 AI 可以用於動作捕捉，並生成動作



透過自然語言，與設備(結合 IoT)互動

他國政府導入微軟 Azure OpenAI Service

新加坡政府導入

趨勢

新加坡政府：正準備導入 ChatGPT，幫公務員寫報告！

2023/02/16 · Chris · 微軟、人工智慧、新加坡、OpenAI、ChatGPT

雖說微軟也準備自家要把 ChatGPT 融合進 Office，但新加坡這次把系統建構在資料保密權限特殊的主權雲裡，微軟跟 OpenAI 無法看到公務機關經手的任何資料。

阿拉伯聯合大公國政府導入



冰島政府導入

Government of Iceland

How Iceland is using GPT-4 to preserve its language.

卡達政府導入

Latest

Qatari Officials Will Use OpenAI GPT To Empower Government Entities

葡萄牙政府導入

ChatGPT: Ministry of Justice will use GPJ to respond to citizens in Portugal

以色列政府使用

ChatGPT 又幫忙寫講稿了？這次是以色列總統 Isaac Herzog

全球醫療產業都在評估ChatGPT如何改變醫療體系服務？

Forbes

FORBES > INNOVATION > ENTERPRISE TECH

Revolutionizing Healthcare: The Top 14 Uses Of ChatGPT In Medicine And Wellness

Bernard Marr Contributor

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Healthcare Asia + Follow

How ChatGPT can change healthcare sector

Story by Staff Reporter • Friday

ChatGPT

| Examples | Capabilities | Limitations |
|----------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------------|
| "Explain quantum computing in simple terms" → | Remembers what user said earlier in the conversation | May occasionally generate incorrect information |
| "Got any creative ideas for a 10 year old's birthday?" → | Allows user to provide follow-up corrections | May occasionally produce harmful instructions or biased content |
| "How do I make an HTTP request in Javascript?" → | Trained to decline inappropriate requests | Limited knowledge of world and events after 2021 |

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Editorial | [Published: 14 March 2023](#)

Will ChatGPT transform healthcare?



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ChatGPT can help improve patient engagement, follow-up care, remind patients to take their medicines, and so much more

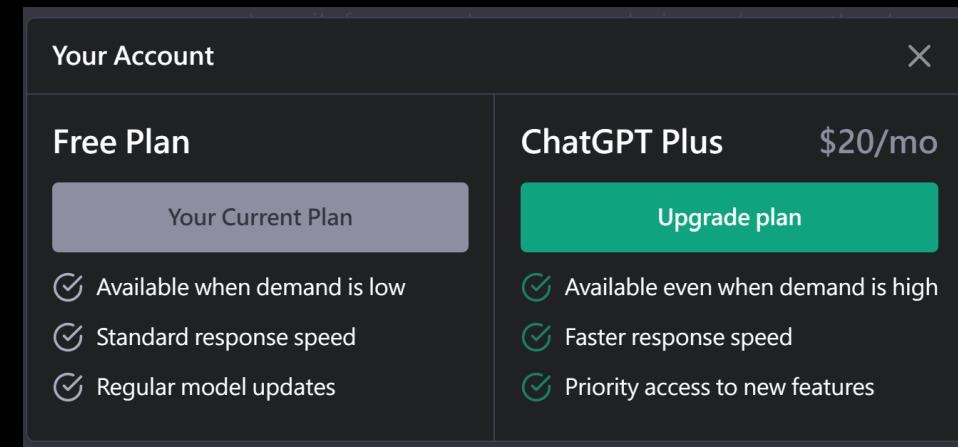
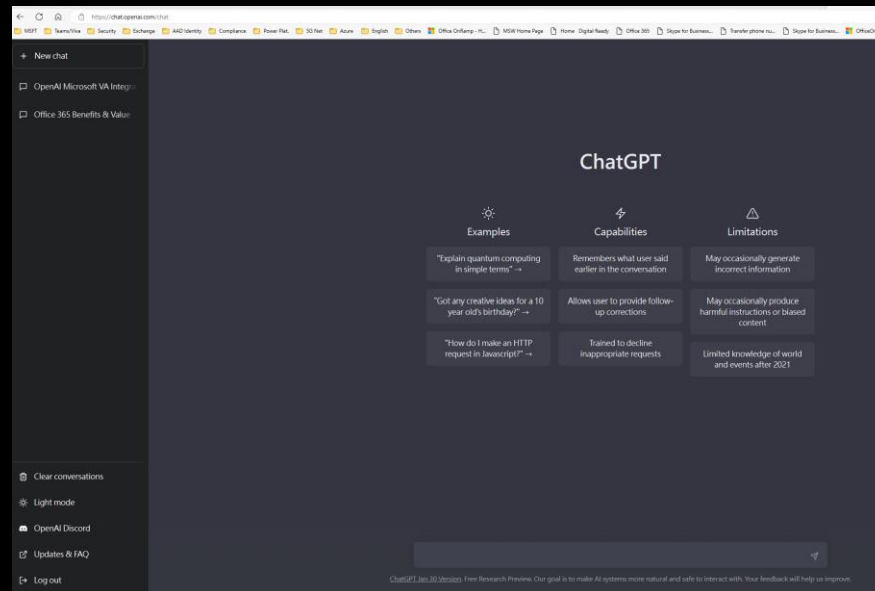
但同時間我們也看到有政府禁止使用，也有企業因使用ChatGPT導致企業機敏資料外洩。

我們該如何正確地使用這些新技術？



何謂ChatGPT

- ChatGPT是聊天機器人，主要會依據使用者的提問，回應類似人類會回應出來的文字。因ChatGPT可回答眾多問題、精通許多學科，就像個私人助理或專家一樣。使用者們可以透過其官網：<https://chat.openai.com>，創建帳號深度體驗，進階使用者可以申請ChatGPT Plus。
- 但就這個聊天機器人技術面而言，使用ChatGPT「文本生成」的AI家族中，「生成式預訓練轉換器」（Generative Pre-Trained Transformer）技術的模型。



Artificial Intelligence

Machine Learning

Deep Learning

Generative AI

1956

Artificial Intelligence (人工智慧)

計算機科學領域，旨在創造可以複製或超越人類智慧的智慧機器

1997

Machine Learning (機器學習)

人工智慧的子集，使機器能夠從現有數據中學習並改進這些數據以做出決策或預測

2017

Deep Learning (深度學習)

一種機器學習技術，其中神經網路層用於處理數據和做出決策

2021

Generative AI (生成式AI)

在給定提示或現有數據的情況下創建新的書面、視覺和聽覺內容。



請扮演一個高中生，撰寫一篇花草樹木的氣味記憶的1000字作文



當我是一名高中生時，受花的香味，那種香味在夏天坐在草地上，聽我會走到林子裡，看著的樹脂味。冬天，我會味道。

這些氣味不僅帶給我快濃郁的花香，我就想起步，每當這時我都會感我的暑假，那時我會和風。當我吸到林子的氣里野餐，我們一



繼續



起在林中遠足，享受自然的美好。當我嗅到雪地的氣味，我就想起了我的冬天，那時我會和我的家人一起去滑雪，我們一起在雪地上滑，享受冰冷而清新的氣味。

這些氣味不僅是我回憶的象徵，它們也是我對自然的愛和尊重的表現。我相信，這些氣味將永遠留在我的記憶中，它們是我生命中最美好的回憶。因此，我堅信，保護自然環境，珍惜花草樹木的氣味，是我們對生命的尊重和敬意。

在這個快速發展的世界中，人們總是在尋求快樂和安逸。但是，我認為，真正的快樂不在於物質的追求，而在於對生命的珍惜和感激。因此，我鼓勵大家不要忘記，珍惜花草樹木的氣味，享受自然的美好，是我們生命中最寶貴的回憶。



繼續



幫我用英文寫一篇約200個字，要來說明企業偉大的地方，希望招募好的人才加入



Join a Company That Thrives on Innovation and Growth



Our company is a leader in our industry and we have built a reputation for excellence and innovation. We are always pushing the boundaries and striving for new solutions that will take us to the next level. We believe that our success lies in the talent of our employees and we are always on the lookout for talented individuals who share our passion for growth and success.

As a member of our team, you will have the opportunity to work on cutting-edge projects and be a part of a collaborative and supportive work environment. Our focus on continuous learning and development means that you will always have access to the latest technologies and training opportunities to help you reach your full potential.

We are committed to our employees and believe in providing a comprehensive benefits package, flexible work schedules and a supportive work-life balance. Our company culture is centered around fostering a positive work environment where everyone is encouraged to share their ideas and contribute to our success.

If you are looking for a challenge and a chance to make a real impact, join us and become a part of a company that is dedicated to innovation and growth.



可以幫我分類說明Azure Microsoft 365 的差異與關係及特色嗎？



Azure 和 Microsoft 365 都是微軟的雲端服務，但它們有明顯的差異：



Azure：

1. 雲端基礎設施服務：Azure 是一個雲端平台，提供了大量的雲端基礎設施服務，如虛擬機器、數據庫、網絡等。
2. 開發和應用程序服務：Azure 還提供了大量的開發和應用程序服務，如應用程序平台和服務、數據科學、人工智能等。
3. 專為開發人員和 IT 解決方案提供者：Azure 的目標是為開發人員和 IT 解決方案提供者提供一個完整的雲端平台，以開發、部署和管理應用程序和 IT 解決方案。

Microsoft 365：

1. 辦公室套件：Microsoft 365 是一個訂閱服務，提供了最新版本的 Windows、Office 以及 Enterprise Mobility + Security。
2. 高效生產力：Microsoft 365 提供了高效生產力的工具，如 Word、Excel、Outlook 等，以幫助用戶

↻ Regenerate response

文本生成 – 基於資料的生成



10.5 吋觸控螢幕

- 使用 Surface 手寫筆在螢幕上自然地書寫和繪圖
- 導覽、拖動和瀏覽文件及網站
- 串流節目和電影

加快完成每日工作

- 選項包括 Intel® Pentium® 黃金級或 Intel® Core™ i3 處理器
- 高達 8GB RAM
- 加快速度處理電子郵件、家庭作業、瀏覽、購物等

隨處就緒

- 最方便攜帶的 Surface 只有 544 公克起
- 透過內建的整合式筆記型電腦的多功
- 長達 11 小時的全
- 內建的 WiFi，以及

技術規格

| | |
|-------------------|----------------------------------------------------|
| 儲存空間 ¹ | eMMC 硬碟：64 GB SSD 磁碟機：128 GB |
| 尺寸 | 245 公釐 x 175 公釐 x 8.3 公釐 (9.65 吋 x 6.9 吋 x 0.33 吋) |



根據這份技術文件，給我完整的產品介紹，使用繁體中文

[https://www.microsoft.com/zh-tw/surface/devices/surface-go-3?](https://www.microsoft.com/zh-tw/surface/devices/surface-go-3?activetab=pivot:%E6%8A%80%E8%A1%93%E8%A6%8F%E6%A0%BCtab#tab1f7c916fe-960a-426c-8752-171e2c998d62)

[activetab=pivot:%E6%8A%80%E8%A1%93%E8%A6%8F%E6%A0%BCtab#tab1f7c916fe-960a-426c-8752-171e2c998d62](https://www.microsoft.com/zh-tw/surface/devices/surface-go-3?activetab=pivot:%E6%8A%80%E8%A1%93%E8%A6%8F%E6%A0%BCtab#tab1f7c916fe-960a-426c-8752-171e2c998d62)



Microsoft Surface Go 3 是一款精心設計的平板電腦，擁有輕巧的設計、快速的性能和高效的使用體驗。它配備了 10.5 英寸的 PixelSense™ 顯示屏，支持更大的螢幕空間，使您可以進行更多的工作和娛樂。此外，它還搭載了最新的 Intel® Pentium® 處理器，以及高達 8GB RAM 和 128GB SSD 的配置，以滿足您的各種需求。

除此之外，Surface Go 3 還配備了全新的磁性鍵盤以及支持觸控筆的 Pixelbook Go，可以提供最佳的輸入體驗。此外，它還具有高效的長效電池，可以保證您在整天的使用中不必再擔心電池的使用情況。

總而言之，Microsoft Surface Go 3 是一款功能齊全且令人滿意的平板電腦，擁有快速的性能、優良的使用體驗和高效的效能。如果您正在尋找一款可以滿足您日常使用需求的平板電腦，那麼 Microsoft Surface Go 3 將是您不二的選擇。

短篇故事



請解釋這則故事

戰國時代，秦王想用十五座城池換取趙國的和氏璧。趙王因宦者令繆賢推薦，召見藺相如，並且問他對這件事的看法。藺相如不想使秦國有攻打趙國的藉口，主張送和氏璧到秦國去，完成與秦國十五座城池的交換。並說：「君王如確定沒有合適的人選，我願意帶著和氏璧出使。秦國真的給城，璧就留給秦國；不給，我會將和氏璧完好的送回趙國。」於是趙王派他帶著和氏璧西行入秦國。到了秦國，藺相如發覺秦王並不是真正想用十五座城池來交換和氏璧，於是在秦王欣賞和氏璧時，假意的說璧上有瑕疵要指給秦王看。等和氏璧回到他的手上，立刻後退了幾步，倚柱而立，氣得頭髮豎立，頂起帽子，便以要擊碎和氏璧來威脅秦王。秦王沒有辦法，只好答應他齋戒五天的要求。藺相如就趁著五天的緩衝時間，暗中派人將和氏璧送回趙國。秦王發覺，已經來不及挽回，為了顯示自己的度量，只好放藺相如回到趙國。



這是一個關於戰國時代的故事，秦國的國王想用十五座城池來交換趙國的和氏璧。趙國的國王因宦者的推薦召見藺相如，問他對此事的看法。藺相如不希望秦國有攻擊趙國的理由，於是他主張送和氏璧到秦國去完成交換，並願意帶著和氏璧前往秦國。當他到達秦國後，他發現秦國並不真的想用十五座城池交換和氏璧，於是他在秦國的國王欣賞和氏璧時，故意說和氏璧上有瑕疵。他回到趙國後，在秦國的國王無辦法挽回局面，只好放藺相如回到趙國。



please summary below article with traditional chinese

太空探索技術公司 Space 創辦人馬斯克 (Elon Musk) 近來持續致力於火星殖民計畫，但是，微軟創辦人比爾蓋茲 (Bill Gates) 在受訪時表示，殖民火星相當花錢，他認為馬斯克還不如投資疫苗的開發來拯救生命。

比爾蓋茲在接受 BBC 採訪時，被問及他是否認為馬斯克有資格成為慈善家。比爾蓋茲回應說，他認為馬斯克目前不是這樣的人，但未來可能會改變。同時也對馬斯克所進行的火星殖民計畫提出質疑。

馬斯克與比爾蓋茲先前就曾多次隔空互嗆，比爾蓋茲認為，與其把人送上火星，還不如資助疫苗開發。「去火星實際上是相當昂貴的，不如購買麻疹疫苗，挽救一條生命只需要 1000 美元。」比爾蓋茲說道。

從對新冠肺炎疫情的看法、電動卡車的想法，或是對彼此的評價，比爾蓋茲與馬斯克頻繁地互槓。去年中馬斯克就曾發文挖苦比爾蓋茲，因為比爾蓋茲放空特斯拉，現在需要十幾億美元才能平倉。

馬斯克也曾抱怨比爾蓋茲放空 5 億美元的特斯拉股票，回嗆他絕對不會支持蓋茲的慈善事業。「抱歉，當你 (蓋茲) 做空特斯拉時，我不能認真看待你在氣候變遷方面的慈善事業，特斯拉可是在解決氣候變化方面做得最多的公司。」

比爾蓋茲接受訪問時則回應，放空特斯拉與氣候變遷無關，這只是一種投資，不代表他反對幫助解決氣候變遷問題，做空特斯拉不意味著他反對電動汽車的興起。



微軟創辦人比爾蓋茲在接受 BBC 採訪時，對太空探索技術公司 Space 創辦人馬斯克的火星殖民計畫表示質疑，認為比起殖民火星，還不如投資疫苗的開發來拯救生命。馬斯克與比爾蓋茲之間的爭吵已經不是第一次，他們之間的互槓也不斷。比爾蓋茲回應說放空特斯拉 (馬斯克的公司) 只是一種投資，不代表他反對幫助解決氣候變遷問題。

文本摘要 – 小學生程度



請將歌詞的感情用小學生的方式來解釋

你最近不說話 怎麼了 為什麼
是不是有什麼事讓妳不快樂
聽說你最近很孤單 有點亂有點慌
可是我卻不能夠在你的身旁

妳想要的 我卻不能夠給妳我全部
我能給的 卻又不是妳想要擁有的
我們不適合也不想認輸
好幾次我們抱著彼此都是想要哭
妳常解釋這樣的一切都只是開始
我覺得是所有的一切早就已結束
不想再約束 不要再痛苦
下一次會有更好的情路



這首歌是在講兩個人在愛情中的爭執。歌詞裡的人物有一個人不說話了，另一個人想知道為什麼，但是他不能在對方身旁。他們之間的愛情好像有一些問題，他們都想要給對方更多，但是卻不能。最後，他們認為他們不適合在一起，他們希望未來有一段更好的愛情。

文法修正 & 多國語言翻譯



Correct this to standard English:

I are going to park to hear music.
She no went to the market.



I am going to the park to listen to music.
She didn't go to the market.



翻譯中文

I are going to park to hear music.
She no went to the market.



我要去公園聽音樂。
她沒去市場。



Translate to

1. French, 2. Spanish and 3. Japanese:



1. French: Je vais au parc pour écouter de la musique. Elle n'est pas allée au marché.
2. Spanish: Voy al parque a escuchar música. Ella no fue al mercado.
3. Japanese: 私は音楽を聴くために公園に行きます。彼女は市場に行っていませんでした。



give me example



Here's a simplified example in Python that demonstrates how OpenAI and Microsoft Virtual Agent could be integrated.



vbnet

Copy code

```
import requests

# Step 1: Create an OpenAI API key
openai_api_key = "your_openai_api_key"

# Step 2: Call the OpenAI API
def get_openai_response(text):
    response = requests.post("https://api.openai.com/v1/engines/davinci",
                              headers={"Authorization": f"Bearer {openai_api_key}",
                                       "Content-Type": "application/json"},
                              json={"prompt": text,
                                    "max_tokens": 100,
                                    "temperature": 0.5})
    return response.json()
```

Regenerate response

生成式 AI 模型 4 大運用特性，與交叉融合後創造無限價值

內容生成 Content Generation GPT Model

Call Center 協助與分析:
自動生成客戶訊息回覆

生成個人化
使用者/用戶接觸介面

摘要總結 Summarization GPT Model

Call Center 協助與分析:
總結客戶訪談報告

知識專家總結分析
(財務報告/外部分析報告)

社群媒體聲量與情緒反應

程式生成 Code Generation Codex Model

將自然語言轉換成為 SQL,
應用在感測數據的管理

轉換自然語言,
查詢專業資料模型

程式代碼文件與說明書撰寫

語意搜尋 Semantic Search Embedding Model

搜尋或檢視特定的產品/服務

知識探堪/文件搜索

混合多種模型的四大使用場景：

縮短軟體開發生命週期
& 加速舊有系統現代化

GitHub Copilot

具有Domain Knowhow
的企業智能大腦

Azure OpenAI

將OpenAI運用在日常工
作中以提高生產力

M365 Copilot
Dynamics 365 Copilot

透過總結和解析威脅情
報來簡化複雜性並增強
企業資安團隊的能力

Security Copilot

Microsoft 與 ChatGPT/OpenAI 之間的關係? 如何做到企業化應用?

| Our partnership with OpenAI



確保人工通用智能 (AGI)
造福人類



讓全球每個人和每個組織
成就不凡

開創性研究
最新模型
快速創新

*Ensure that artificial general
intelligence (AGI) benefits
humanity*

企業級功能
產品服務等級協定 (SLAs)
資料隱私性

*Empower every person and
every organization on the
planet to achieve more*

GPT-4

生成與理解文字

Codex

生成與理解程式碼

DALL·E

根據提示 (prompt) 生成圖片

ChatGPT

對話版的 GPT-3.5

商務價值



- 私有網絡 (vNet)
- Private Endpoint/Link
- Custom Domain
- CMK
- RBAC/IAM 權限管理
- Azure AD集成
- 托管身份 (Managed ID)
- 企業合規 (SOC2, HIPAA, ISO, GDPR Data Privacy etc.)
- 企業倫理審查 (RAI)
- 企業級有償Support

- 多區域可用/容災
- 保證SLA 99.9%
- 更高Rate Limit (TPM/QPM)
- 更高Token上限 (Fine Tuning)
- Endpoint部署管理和監控
- 基於Azure的API擴充:
 - Token監控
 - 更好的Error & debug支持

- 集成現有Cognitive Service的服務架構
- 集成資源監控 (Monitor / Log Analytics)
- 集成自動化 (Automation Task, ARM部署)
- 集成Express Route
- 集成密碼管理 (AKV)
- 集成數據加密 (Azure Storage)



- API 文檔
- Fine-tuning
- API發佈/管控
- Endpoint hosting

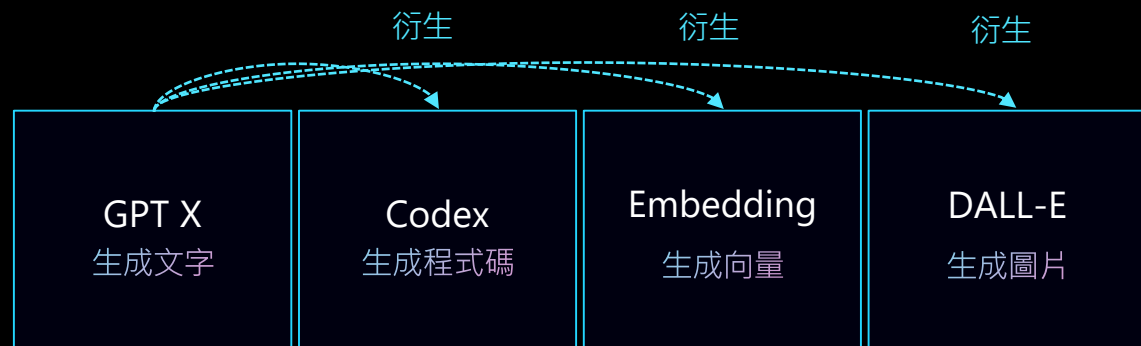
所有在OpenAI.com上產生的公共用量，全都是Azure的投資匯報

OpenAI 它是

預訓練模型家族
(俗稱大模型)

學習方法

學習內容
(文字類素材)



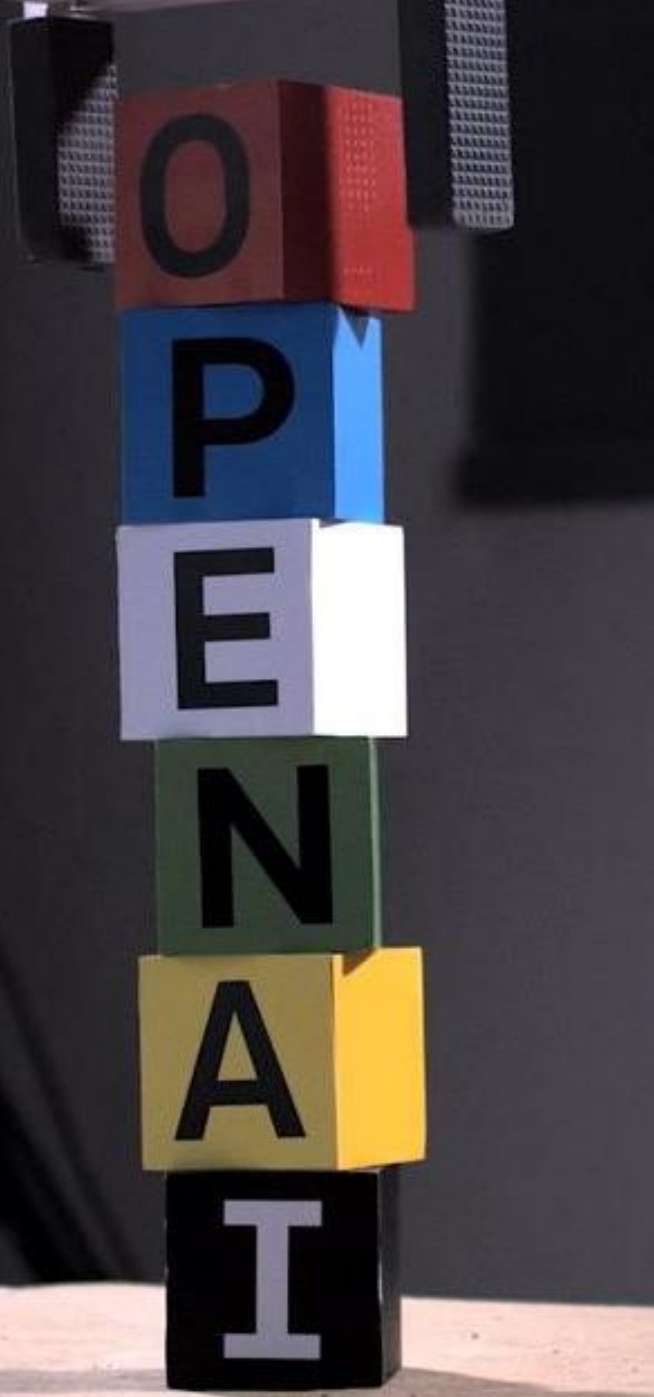
0 1 0 1 0 1 0 1 0 1 0 1
1 0 1 0 1 0 1 0 1 0 1 0
0 1 0 1 0 1 0 1 0 1 0 1
1 0 1 0 1 0 1 0 1 0 1 0
0 1 0 1 0 1 0 1 0 1 0 1

GPT 模型具備一定的真實世界知識儲備，
基本常識和概念 (世界觀)

截止 2021 年 6 月
text-davinci-003



Microsoft Portfolio for AI



Business Users



Developers & Data Scientists

 Microsoft 365

Applications

 Microsoft Dynamics 365

Partner Solutions

Power Platform

 Power BI

 Power Apps

 Power Automate

 Power Virtual Agents

Azure AI

Scenario-Based Services Applied AI Services



Bot Service



Cognitive Search



Form Recognizer



Video Analyzer



Metrics Advisor



Immersive Reader

Customizable AI Models Cognitive Services



Vision



Speech



Decision



Language



OpenAI

ML Platform



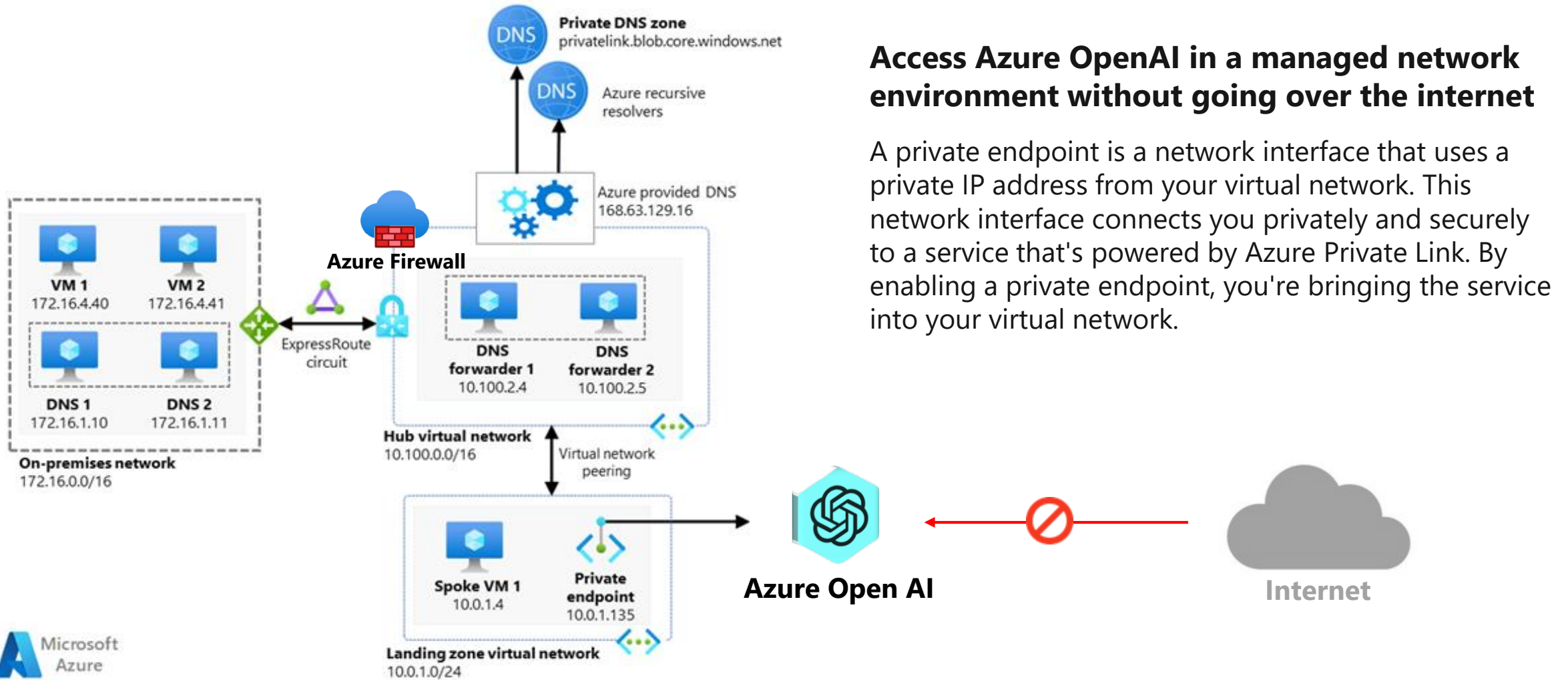
Azure Machine Learning

OpenAI services now GA, ChatGPT coming soon
[\(General availability of Azure OpenAI Service expands access to large, advanced AI models with added enterprise benefits | Azure Blog and Updates | Microsoft Azure\)](#)

比較 OpenAI.com 和 Azure Open AI 服務

| |  OpenAI |  Microsoft Azure OpenAI Service |
|-----------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 最新模型搶先體驗 | OpenAI 研發的最新模型，包括 alpha 和 beta 模型，將始終首先在 OpenAI.com 上提供。 | 一旦模型在 OpenAI.com 上正式發佈，微軟將確定它們在 Azure OpenAI 服務上線的時間和產品。 |
| 交付方式 | 作為基於 SaaS 的 AI API 交付 | 作為第一方 Azure 服務提供，通過客戶的 Azure 租用戶/訂閱使用 |
| 支付途徑 | 向 OpenAI 付費 | 向 Microsoft 付費 (可以作為 MACC 的一部分) |
| 合規 | 付費版：SOC2 Type 1, SOC Type 2 (待定), HIPAA; 免費版：無 | 全套合規產品 (查看完整的 Microsoft Compliance Offerings) |
| 模型 | GPT-4, Codex and DALL-E ChatGPT API and Whisper API | GPT-3.5, DALL-E and Codex (including Codex Fine-Tuning) ChatGPT API |
| 解決方案 | ChatGPT, DALL-E Labs | Github Copilot, Teams Premium and Viva Sales |
| 支援 | 由 OpenAI 支援團隊提供支援 | 台灣在地 Azure 支援團隊提供支援 |
| 客戶互動 | 聯繫 OpenAI 解決方案團隊 | 聯繫台灣微軟業務窗口 |
| SLA | 尚未公布與提供保證 | 99.9%SLA : Azure Service Level Agreements |
| 安全和網路 | Single Sign On (SSO), 協力廠商身份訪問管理和基於角色的權利管理 | 與企業內部AAD與條件式多因素驗證做單一整合。Azure Active Directory, Role Based Access Control, Customer Managed Keys, Private Link and Network Security |
| 負責任的AI與倫理 Responsible AI | Usage Policies 和 Safety Best Practices | Microsoft Responsible AI Principles apply |

支援 Private Endpoint and VNet



Access Azure OpenAI in a managed network environment without going over the internet

A private endpoint is a network interface that uses a private IP address from your virtual network. This network interface connects you privately and securely to a service that's powered by Azure Private Link. By enabling a private endpoint, you're bringing the service into your virtual network.

Azure OpenAI 訓練資料以及微調模型如何處理加密資料

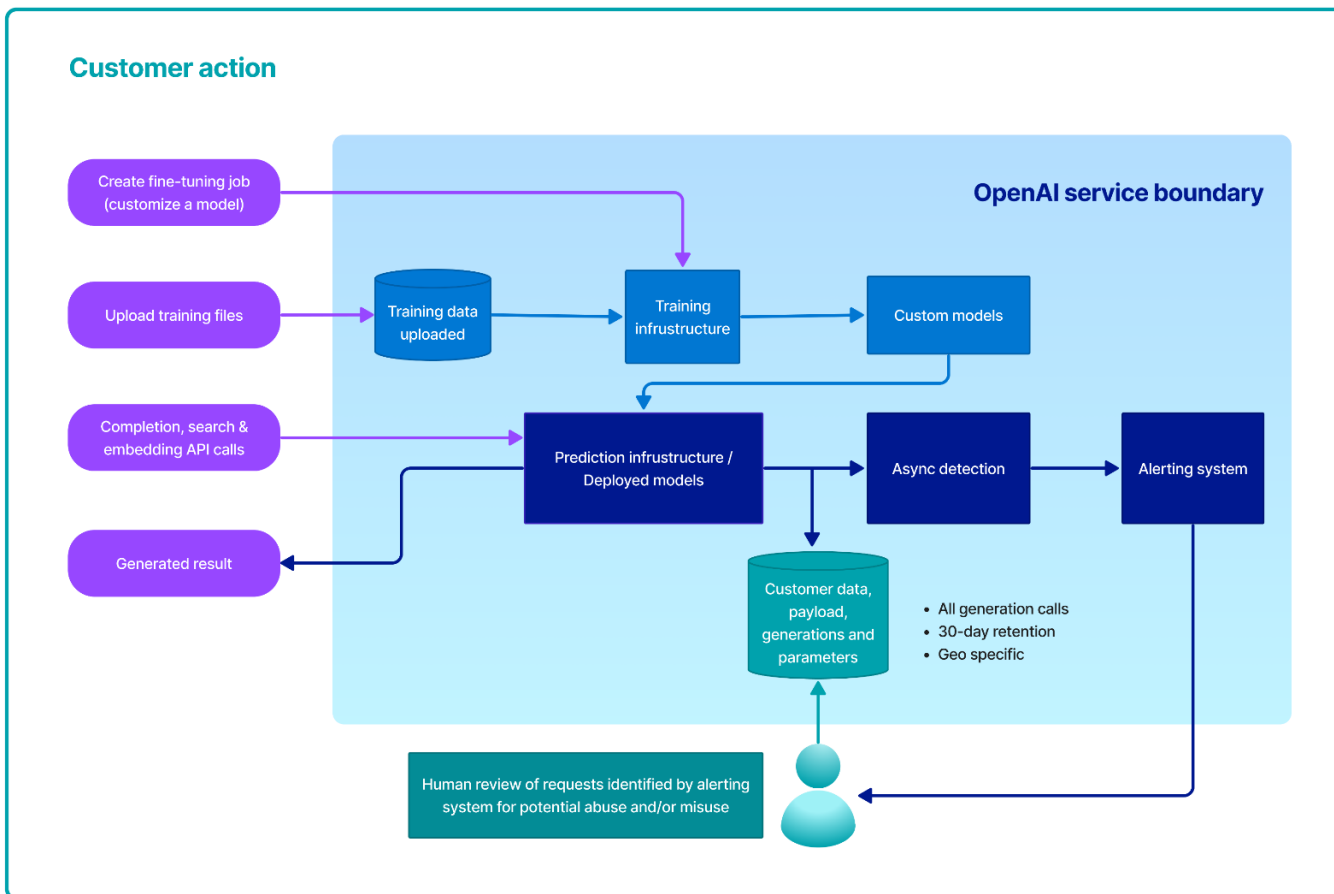
- 使用符合 [FIPS 140-2](#) 標準的 256 位 AES 進行加密和解密
- 微軟管理的加密金鑰 (MMK)
- 客戶管理的金鑰 (CMK)
- 參考資料：[Azure OpenAI Service encryption of data at rest](#)

微軟**不會使用客戶資料**來訓練或改進任何微軟模型。

- 參考資料：[Training data for purposes of fine-tuning an OpenAI model](#)

請求和回應的資料可能由 **Azure OpenAI 服務** 臨時儲存最多 **30 天**。

- 在發生故障的情況下進行 Debugging
- 調查濫用和誤用的模式
- 改進內容過濾系統
- 參考資料：[How is data retained and available customer controls](#)



如何申請排除微軟人工審核流程

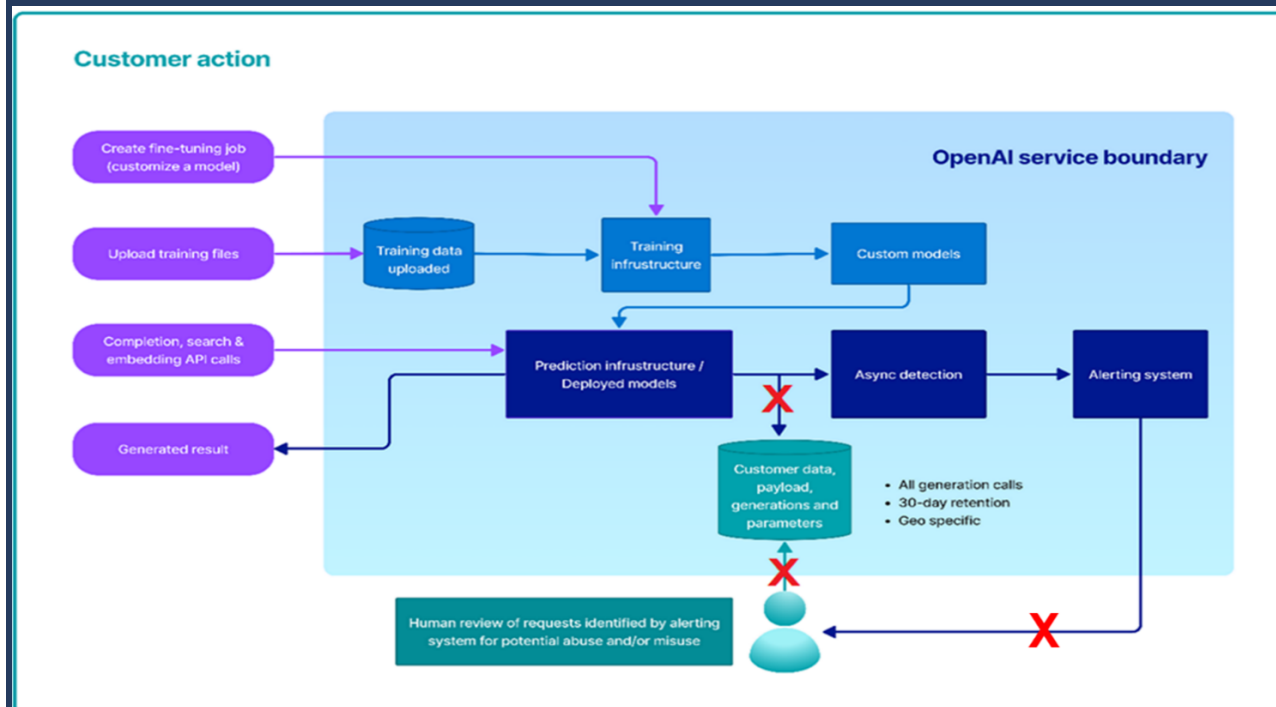
Some customers in highly regulated industries with low risk use cases process sensitive data with less likelihood of misuse. Because of the nature of the data or use case, these customers do not want or do not have the right to permit Microsoft to process such data for abuse detection due to their internal policies or applicable legal regulations.

To empower its enterprise customers and to strike a balance between regulatory / privacy needs and abuse prevention, the Azure Open AI Service will include a set of Limited Access features to provide potential customers with the option to modify following:

1. abuse monitoring
2. content filtering

These Limited Access features will enable potential customers to opt out of the human review and data logging processes subject to eligibility criteria governed by Microsoft's Limited Access framework. Customers who meet Microsoft's Limited Access eligibility criteria and have a low-risk use case can apply for the ability to opt-out of both data logging and human review process. This allows trusted customers with low-risk scenarios the data and privacy controls they require while also allowing us to offer AOAI models to all other customers in a way that minimizes the risk of harm and abuse.

If Microsoft approves a customer's request to access Limited Access features with the capability to (i) modify abuse monitoring and (ii) modify content filtering, then Microsoft will not store the associated request or response. Since no request or response data will be stored at rest in the Service Results Store in this case, the human review process will no longer be feasible. Therefore, both CMK and Lockbox will be deemed out-of-scope for harm and abuse detection.



參考資料：[Can a customer opt out of the logging and human review process](#)
 表單：[Access Review: Modified Content Filters and Abuse Monitoring](#)

知識產權歸客戶所有, 同樣法律責任也是!

詳見Azure open AI FAQ

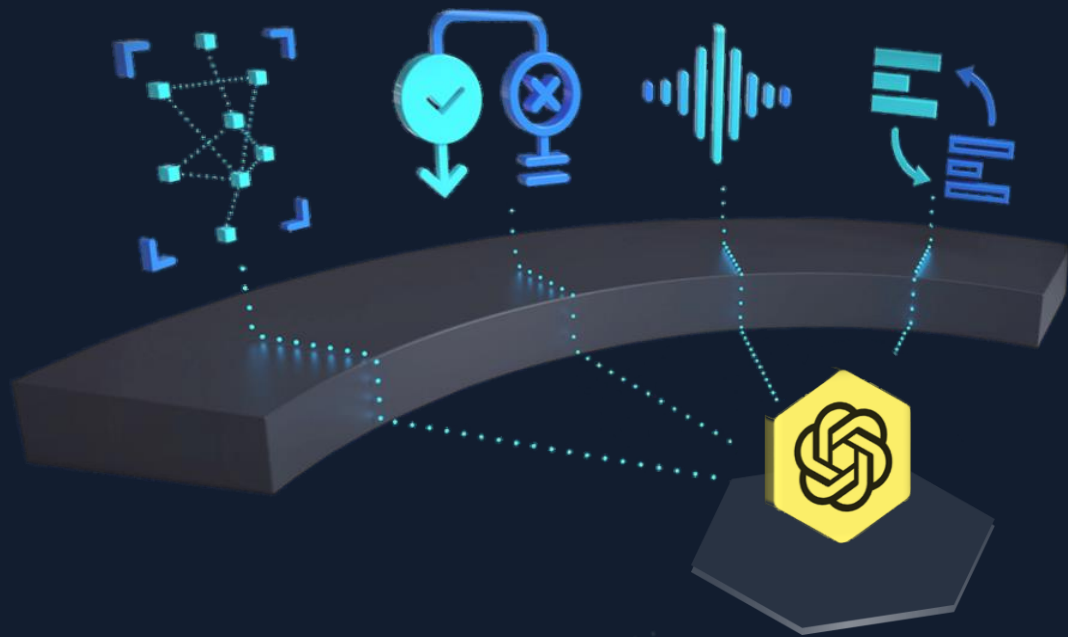
<https://learn.microsoft.com/en-us/legal/cognitive-services/openai/data-privacy?context=%2Fazure%2Fcognitive-services%2Fopenai%2Fcontext%2Fcontext>

知識產權和數據隱私保護聲明

承諾不擅用客戶數據，數據內部處理流程等細節

<https://learn.microsoft.com/en-us/legal/cognitive-services/openai/data-privacy?context=%2Fazure%2Fcognitive-services%2Fopenai%2Fcontext%2Fcontext>

Microsoft 如何透過OpenAI/ChatGPT協助企業/醫院數位轉型?



Microsoft + OpenAI - AI 全能助手 Copilot (副駕駛)

OpenAI will be everywhere!

Azure OpenAI (AOAI) ChatGPT & Cognitive Service

醫療產業應用情境



醫學中心 / 區域醫院 / 地區醫院 / 診所 / 長照機構

企業級服務與功能

產品服務等級協定保證(SLA)

資料隱私保護與法令遵循



策動智慧醫

AI Labs.tw
台灣人工智慧實驗室

要怎麼去把現在台灣最精銳的人工智慧結果

More to come from Microsoft Azure OpenAI/ChatGPT Global Reference Cases :

- 1.) Summarizing change of shift reports or other reports
- 2.) Search capabilities for answering patient questions or learning processes (search capabilities that can provide patients with education on caring for their illness, or help patients transition home prior to discharge, etc.)
- 3.) Help interpret lab/diagnostic tests in human readable form (e.g. interpreting sugar levels to indicate high sugar or low + potential next steps) INCLUDING complicated DNA analysis for CA treatments
- 4.) Drug information: used to provide information about drugs, including indications, contraindications, side effects, and dosing, to patients and healthcare providers.
- 5.) Combine with Nuance to record health visit conversations and then create summaries and pull out relevant information.
- 6.) Virtual health assistants: used to create virtual health assistants that can answer patients' questions and provide information on symptoms, treatment options, and self-care.
- 7.) Medical triage: used to triage patients by asking them questions about their symptoms and providing initial recommendations for treatment or follow-up.
- 8.) Medical record summaries: used to summarize patients' medical records, making it easier for doctors to review and understand a patient's history.
- 9.) Member outreach and engagement - automate gaps in care reminders / medication adherence
- 10.) Medication reminders: used to send reminders to patients to take their medication, schedule appointments, and provide other helpful information.
- 11.) Mental health support: used to provide mental health support by answering questions and providing information and resources to people who need help.
- 12.) Language Translation: used to provide language translation services, which can help to bridge the communication gap between patients and healthcare providers who speak different languages.
- 13.) Medication Reconciliation from all documentation to include an accurate/complete list of patients medications. Provide list and information of med changes. Manage medication information. (KM)
- 14.) Patient and provider Messaging. (KM)
- 15.) Condense clinical training content (i.e. video) to deliver education to bedside care providers at the point of care. (KM)
- 16.) Comprehensive search of Evidence Based Literature libraries (pubMed, NIH, etc) to assist providers on diagnosis through evidence based guidelines. (KM)
- 17.) EHR synthesized to consolidate and better understand 'patient story'. (KM)
- 18.) Synthesis of referral documentation and data. i.e for CA treatment (KM)
- 19.) Clinical Trials search and matching for appropriate patient recommendations. (KM)
- 20.) Nurse shift handover summary. Shift Handover Opportunity: have a form w/ the ability to leverage OpenAI (i.e. ChatGPT) that can summarize patient information for the shift (i.e. 7a-7p, 7p-7a). This summary will then be used for: Nurse Shift Handover and MDR activity (KM)

醫學研究資料搜尋與內容歸納

Prompt

Please give me 10 important academic papers related to lidar point cloud upsampling in the past 5 years. The papers must be accepted by top conferences and the number of citations must exceed 200.

1. Point Cloud Upsampling via Deep Learning (CVPR 2018), by Y. Wang, Y. Li, and Y. Guo, with over 500 citations.
2. PointNet++: Deep Hierarchical Feature Learning on Point Sets in a Metric Space (NIPS 2017), by C. Qi, H. Su, K. Mo, and L. Guibas, with over 1000 citations.
3. PointCNN: Convolution on X-Transformed Points (CVPR 2018), by Y. Li, R. Bu, M. Sun, and B. Shi, with over 500 citations.
4. PointNet: Deep Learning on Point Sets for 3D Classification and Segmentation (CVPR 2017), by C. Qi, H. Su, K. Mo, and L. Guibas, with over 2000 citations.
5. PointNetLK: Robust & Efficient Point Cloud Registration using PointNet (CVPR 2018), by Y. Wang, Y. Li, and Y. Guo, with over 500 citations.
6. PointFusion: Deep Sensor Fusion for 3D Bounding Box Estimation (CVPR 2018), by Y. Wang, Y. Li, and Y. Guo, with over 500 citations.
7. PointConv: Deep Convolutional Networks on 3D Point Clouds (NeurIPS 2018), by Y. Wang, Y. Li, and Y. Guo, with over 500 citations.
8. PointNetVLAD: Deep Point Cloud Based Retrieval for Large-Scale Place Recognition (CVPR 2018), by Y. Wang, Y. Li, and Y. Guo, with over 500 citations.
9. PointWeb: A Deep Network for Point Cloud Based 3D Object Detection (CVPR 2019), by Y. Wang, Y. Li, and Y. Guo, with over 500 citations.
10. PointPillars: Fast Encoders for Object Detection from Point Clouds (CVPR 2019), by Y. Wang, Y. Li, and Y. Guo, with over 500 citations.

davinci003

Load an example

View code

Prompt

Please explain PointNet++:Deep Hierarchical Feature Learning on Point Sets in a Metric Space and state its advantages and disadvantages.

PointNet++ is a deep learning architecture for 3D point cloud data. It is an extension of the original PointNet architecture, which was designed to learn features from unordered point clouds. PointNet++ is a hierarchical neural network that uses a set of local and global features to learn a metric space for point clouds. It is composed of a series of layers, each of which is responsible for extracting features from the point cloud. The local features are extracted from the point cloud using a set of convolutional neural networks, while the global features are extracted using a set of fully connected layers.

Advantages:

- PointNet++ is able to learn features from unordered point clouds, which makes it suitable for a variety of 3D applications.
- It is able to learn a metric space for point clouds, which allows for more accurate classification and segmentation tasks.
- It is able to extract both local and global features from the point cloud, which allows for more accurate feature extraction.

Disadvantages:

- PointNet++ is computationally expensive, as it requires a large number of layers and parameters to be trained.
- It is difficult to interpret the learned features, as the network is composed of a large number of layers.
- It is difficult to apply PointNet++ to large datasets, as the network requires a large amount of memory and computational resources.

Customize Microsoft Word Plug-in

The image shows a Microsoft Word window with a document titled "word add-in 4ad5e474-a1ec-4bcc-a2ab-07c78a034e21.docx". The ribbon includes "檔案", "常用", "插入", "繪圖", "設計", "版面配置", "參考資料", "郵件", "校閱", "檢視", and "說明". The "常用" ribbon is active, showing font settings (Calibri, size 12) and paragraph settings. The document content is as follows:

組織來源：Esophageus|Esophageal cut end|R't recurrent laryngeal LN|LN 10|LN 7

臨床診斷：Esophagus squamous cell carcinoma, Tm, ycT1bN2M0, stage III status post port-A insertion and neoadjuvant concurrent chemoradiotherapy

手術方式：Thoracoscopic esophagectomy + regional lymph node dissection + single port laparoscopic gastric tube reconstruction

切取組織數量：5 件

浸入福馬林時間為 18 時 00 分(24 小時制)

臨床分期：T(1b) N(N2) M(0) Stage(III)

1. Esophagus squamous cell carcinoma, Tm, ycT1bN2M0, stage III status post port-A insertion and neoadjuvant concurrent chemoradiotherapy
2. Acute gastric ulcer with intestinal metaplasia
3. Alcoholic liver cirrhosis, child-pugh A
4. Peripheral arterial occlusive disease
5. Hypertension
6. Resolved Hepatitis B infection under prophylaxis Vemlidy use

The 56-year-old man had past history of

1. Esophagus squamous cell carcinoma,Tm, cT1bN2M0, stage III (performance status = 1) status post port-A insertion and neoadjuvant concurrent chemoradiotherapy with weekly Carboplatin+Paclitaxel C1-1 on 2022/01/12
2. Acute gastric ulcer with intestinal metaplasia
3. Alcoholic liver cirrhosis, child-pugh A
4. Peripheral arterial occlusive disease

The right sidebar is titled "Azure OpenAI for Word" and contains the following sections:

- 設定 (Settings)
- 文本生成 (Text Generation)
- 範本 (Templates): 會議摘要 (Meeting Summary)
- 恢復預設內容 (Restore Default Content)
- 提問前綴 (Prompt Prefix): 這是一篇即時語音的會議記錄。
- 提問後綴 (Prompt Suffix): 以下訊息是病人住院期間的紀錄，請完整總結出院摘要和注意事項 (This message is the record of the patient's hospital stay, please summarize the discharge summary and precautions completely).
- 生成 (Generate) button
- Token usage: 本次請求提問 token 數: 796, 本次請求生成 token 數: 965, 目前累計耗用 token 數: 5903

AI 成為護理紀錄小幫手

Azure OpenAI 如何協助到臨床單位

解決方案



效益

- 洞悉醫療糾紛可能性
- 協助用藥資訊判斷
- 輔助醫護判斷營養情況
- 快速記錄總結



護理紀錄使用情境

- 交班來不及，給下一班的護理人員參閱紀錄
- 用藥有無不良反應
- 用藥效果評估
- 有無進行約束
- 慢性傷口的潰爛及癒合

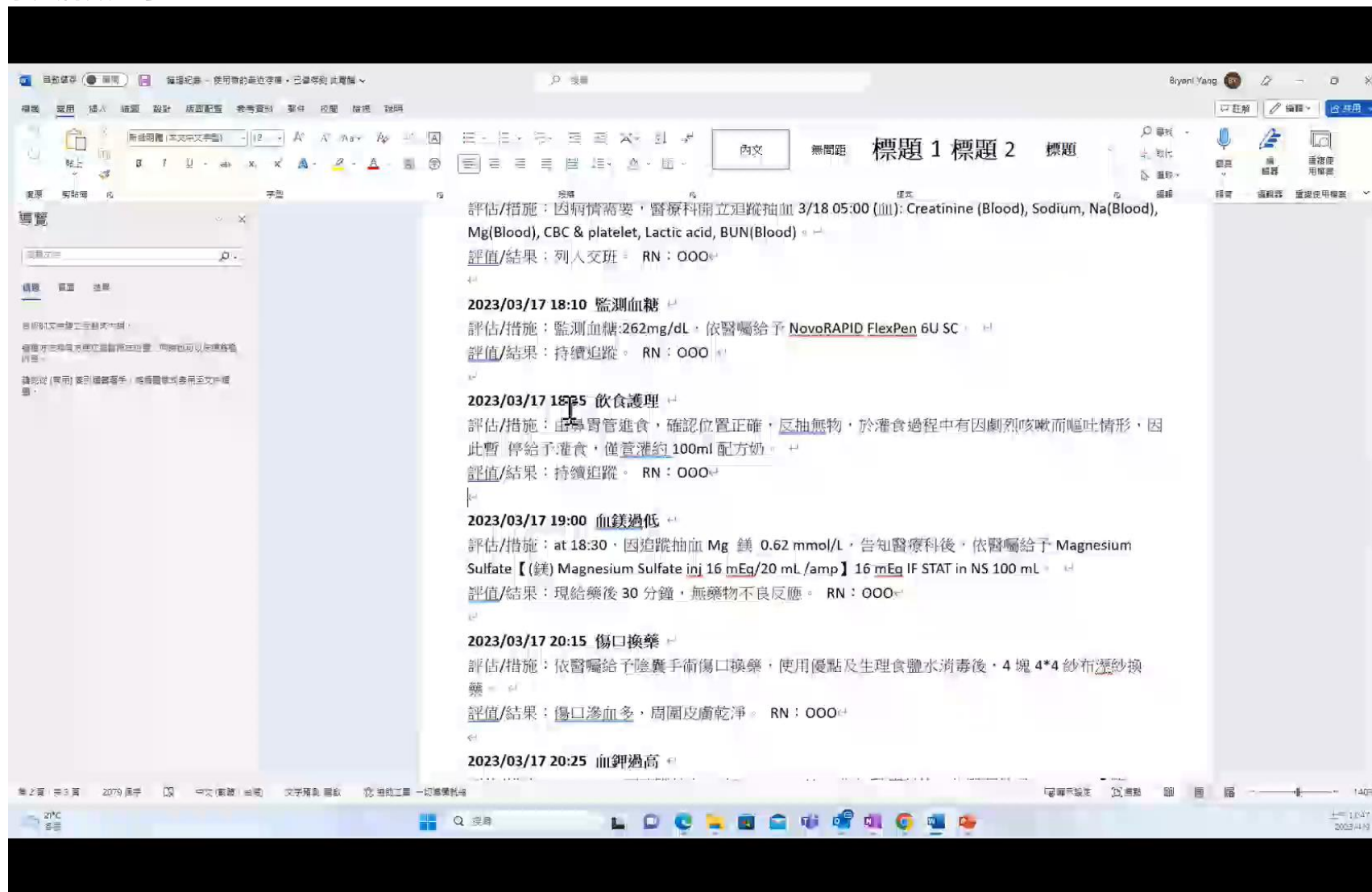


- 醫生看護理師用了什麼藥
- 查閱用藥的趨勢
- 病人的親友誰來到病房端，以及相關溝通紀錄
- 消化得好不好？餵食正不正常？是否會有營養不良的情況
- 長期的護理紀錄會需要做總結



AI 成為護理紀錄小幫手

病人未來有營養不良的風險嗎？



AI 成為護理紀錄小幫手

病人進行了約束行為嗎？

The screenshot shows a Microsoft Teams chat window titled "微軟醫療機器人 聊天 關於". The chat history includes:

- 2023/03/17 18:08 檢查與治療**
評估/檢核：西洲清華醫院 醫療科獨立檢驗抽血3/18 05:00 (血k Creatinine (Blood), Sodium, Na(Blood), Mg(Blood), CBC & platelet, Lactic acid, BUW/Blood)。
評值/結果：列入交班，RN：000
- 下午3:04**
微軟醫療機器人：根據這段文章，病人有進行約束，在2023/03/17 16:21的時候因為身上管路眾多，與醫療科討論後給予四肢保護性的約束。
- 下午3:05**
微軟醫療機器人：Hi 你好我是微軟醫療小幫手，需要我翻譯或轉錄人 AI 或會小幫手等字樣都可以到我囉！
需要幫你整理重點嗎，如果是的話請直接輸入你要的文字
- 下午3:05**
微軟醫療機器人：請輸入你的內容

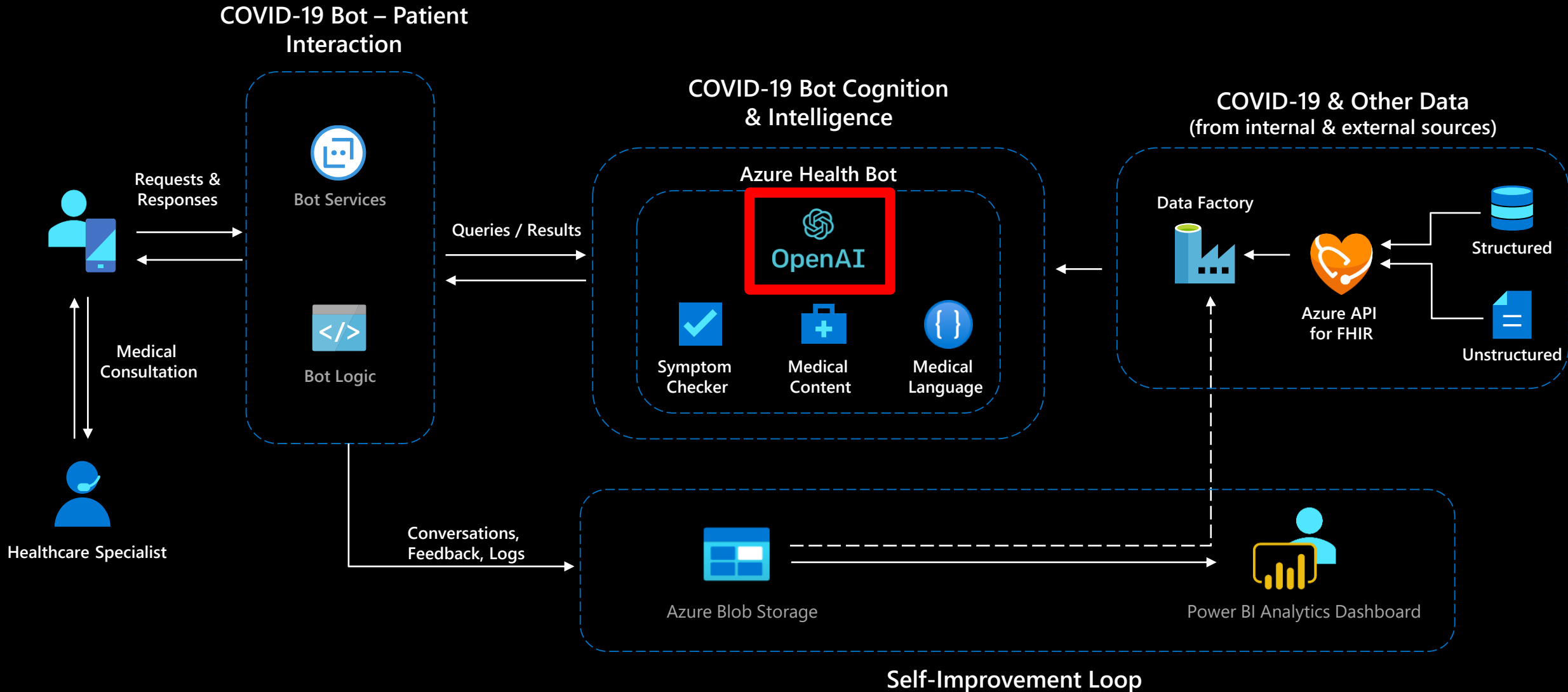
At the bottom of the chat, there are input fields and buttons for "查看訊息", "管理權", and "與護理紀錄".



MOD Administrator

智能個人化病患照護服務 Smart Personalized Care Technical Overview

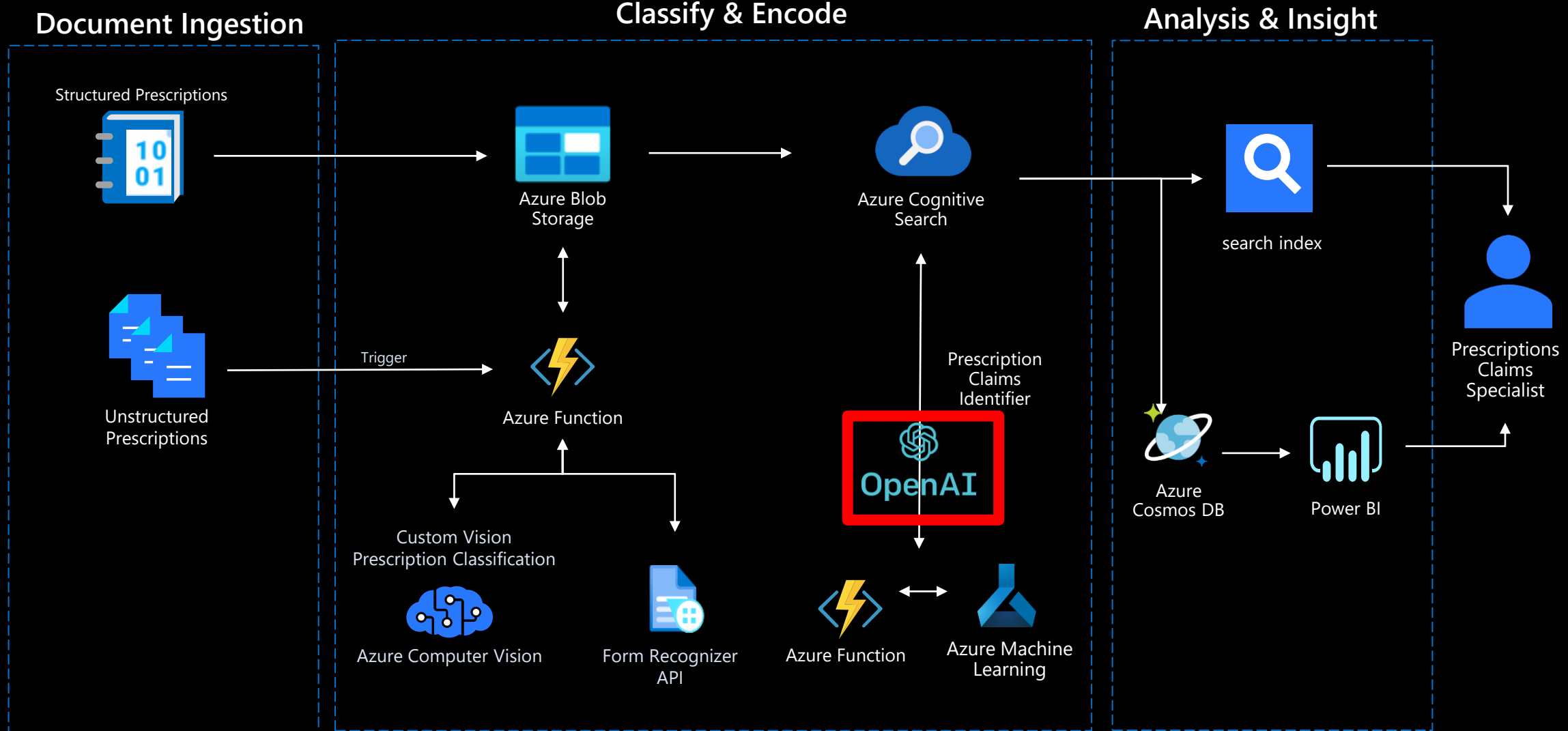
Help screen patients for potential COVID-19 infection and care



智能申報自動化服務

Claims Management and Automation Technical Overview

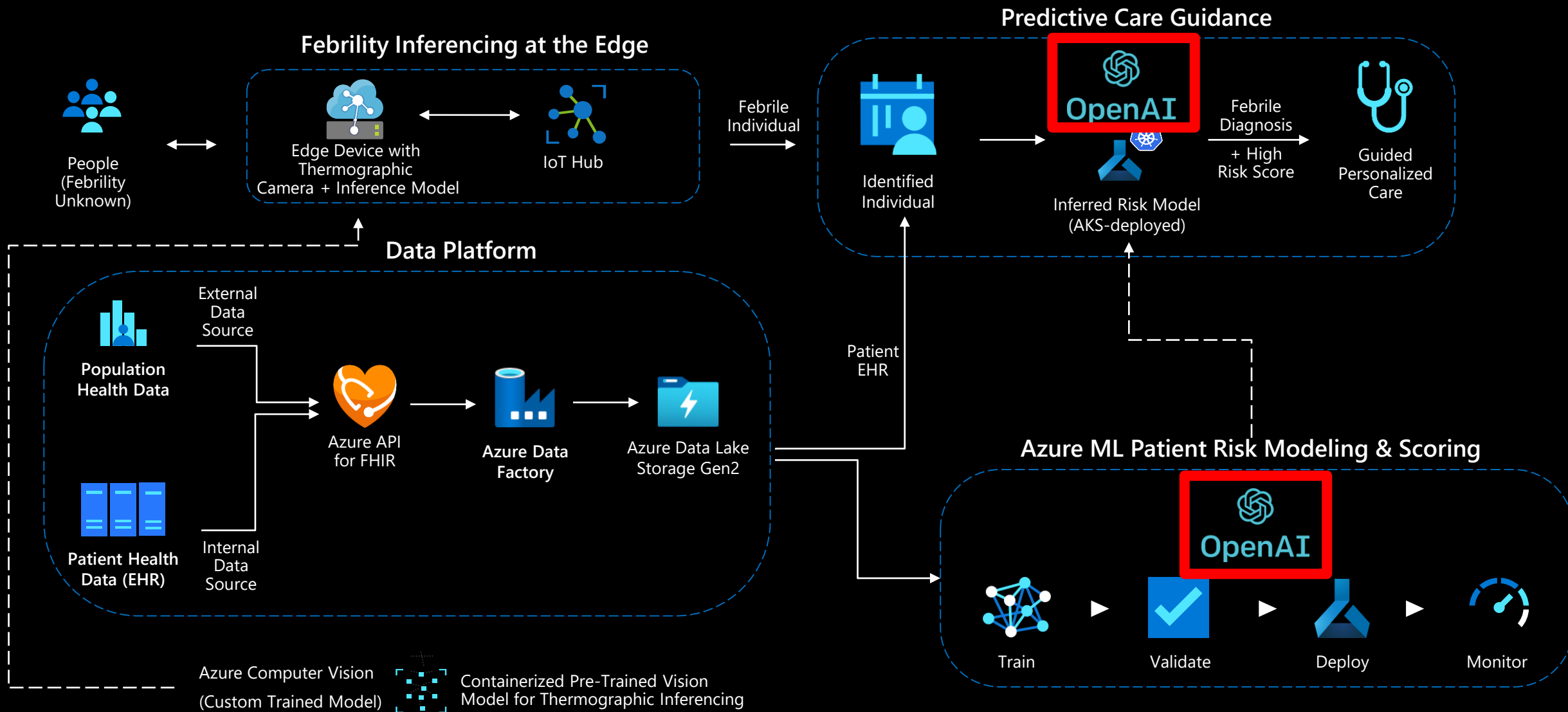
Make hand-written prescriptions actionable with a high degree of confidence & accuracy



智能醫療助手服務

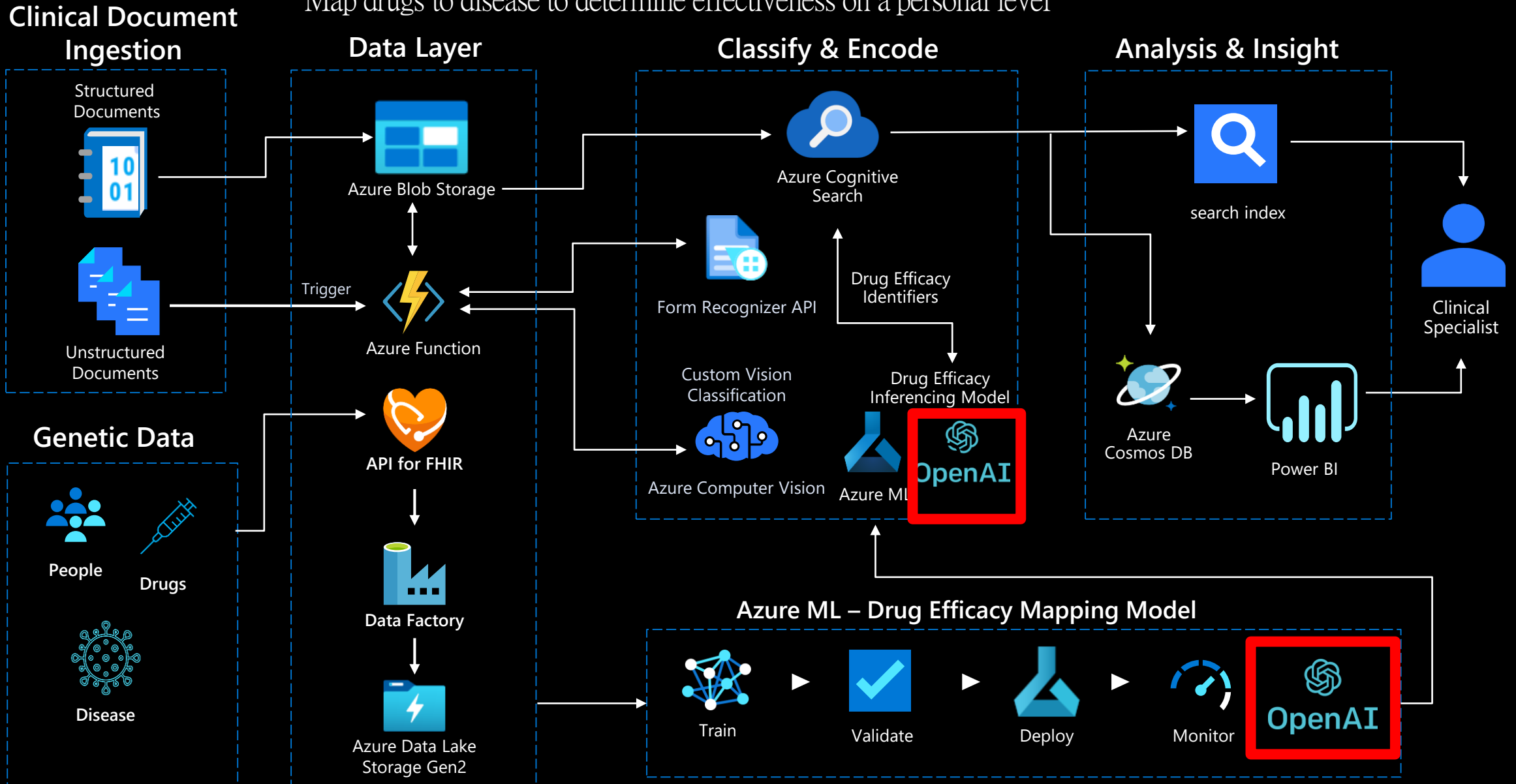
Predictive Care Guidance Technical Overview

Accelerate & ensure quality diagnostics for improved health, safety & lower costs



智能新藥開發(智抗菌)服務 Drug Discovery Technical Overview

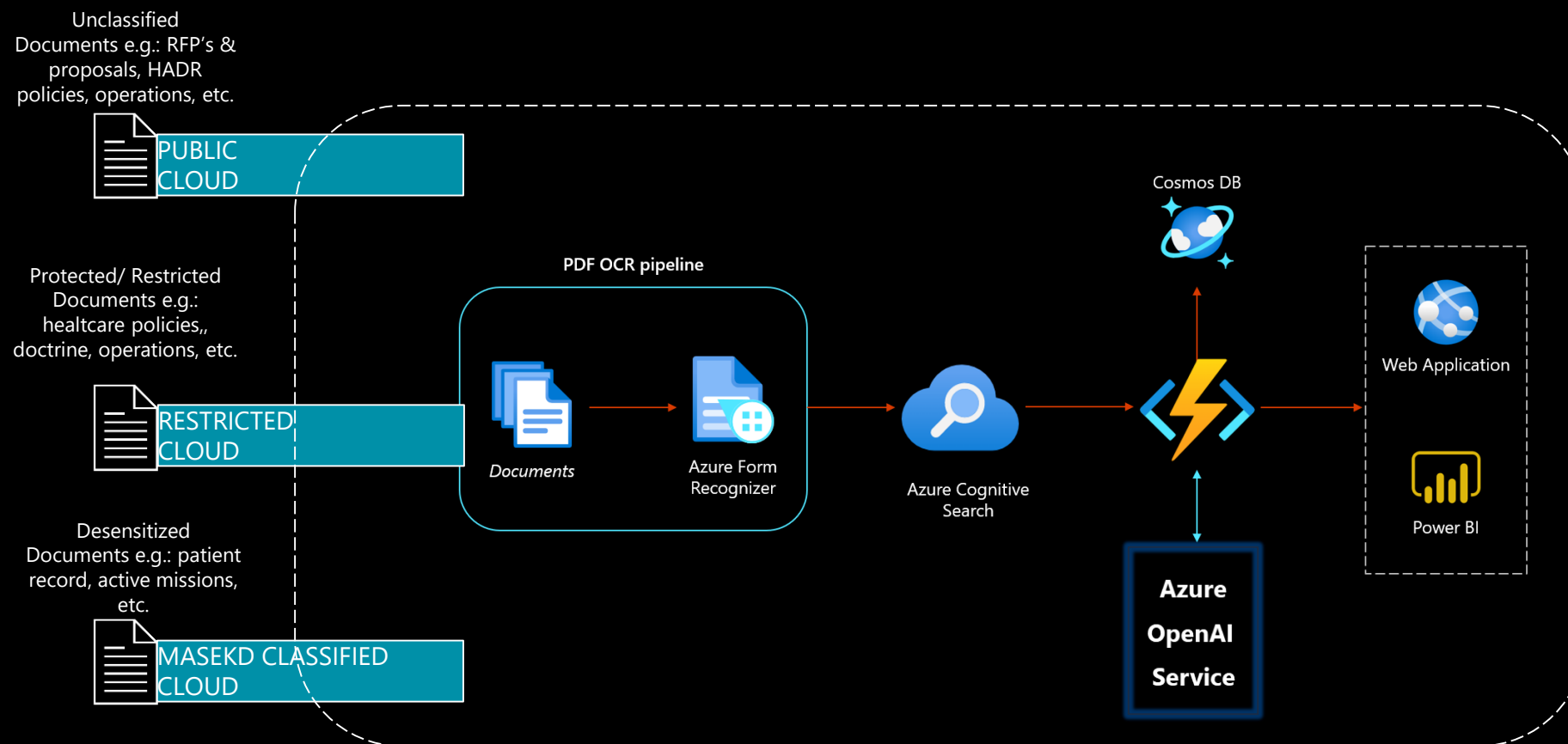
Map drugs to disease to determine effectiveness on a personal level



醫院紙本數位化與結構化資料轉型

Extracting from Multiple Documents

AI-Enabled Enterprise Search & Analytics



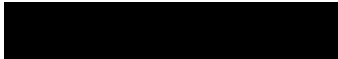
Other Azure OpenAI use cases for AI-Enabled Enterprise Search & Analytics in Healthcare:

- Automatically generate analytics using a LLM trained on a database of internal documents
- Automatically generate a summary of lessons learned from operations and training documentation.

Drop files here

選擇檔案

20230428_OA...機酸檢驗.pdf



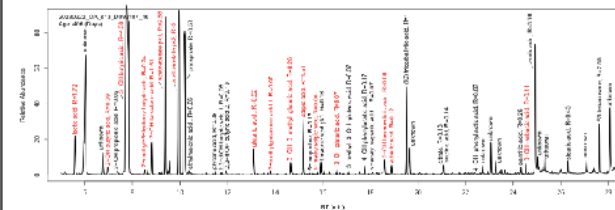
尿液有機酸檢驗報告
(毒/藥物鑑定暨檢驗中心)

身分證號: [redacted] 姓名: [redacted] 生日: [redacted] 第 1 頁

| | |
|------------------|---------------------------|
| 檢體編號: [redacted] | 性別: 男 |
| 檢體種類: 尿液 | 檢驗狀況: creatinine 11 mg/dL |
| 採檢日期: 2023/3/16 | 送檢醫院與單位: [redacted] |
| 收件日期: 2023/3/17 | 送檢醫師: 轉檢中心 |
| 檢驗項目: 尿液有機酸 | 檢驗方法: GC/MS |

檢驗結果:

層析圖



結果判讀:

1. Increased 2-methyl-3-hydroxy butyric acid, that can be seen in alpha-methylacetoacetic aciduria (also known as beta-ketothiolase deficiency).
2. Ketonuria, lactic aciduria.
3. Presence of dicarboxylic acids.
4. Huge amount of acetoacetate.

擷取資訊

萃取結果

1. 姓名: [redacted]
2. 身分證號: [redacted]
3. 檢體編號: [redacted]
4. 檢體種類: 尿液
5. 採檢日期: 2023/3/16
6. 收件日期: 2023/3/17
7. 檢驗項目: 尿液有機酸
8. 性別: 男
9. 檢體狀況: creatinine 11 mg/dL
10. 送檢醫院與單位: [redacted]
11. 送檢醫師: [redacted]
12. 檢驗方法: GC/MS
13. 結果判讀: 1.Increased 2-methyl-3-hydroxy butyric acid, that can be seen in alpha-methylacetoacetic aciduria (also known as beta-ketothiolase deficiency). 2.Ketonuria, lactic aciduria. 3.Presence of dicarboxylic acids. 4.Huge amount of acetoacetate. 5.Trace 3-methylglutaconic acid, 3-OH-3-methyl-glutaric acid. 6.Please correlate with clinical condition and tandem mass analysis results.

萃取項目

1. 姓名
2. 身分證
3. 檢體編號
4. 檢體種類
5. 採檢日期
6. 收件日期
7. 檢驗項目
8. 性別
9. 檢體狀況
10. 送檢醫院與單位
11. 送檢醫師
12. 檢驗方法
13. 結果判讀

Drop files here

選擇檔案

1090107095252_45.pdf



病人運送安全評估表

病人姓名: [redacted] 性別: 男

一、運送日期、目的:

運送日期: 08年1月3日; 運送目的: 檢查 轉床 手術 送折 急診轉住院 其他

二、運送前生命徵象:

測量時間: 10時20分
HR: 116次/分, RR: 16次/分, BP: 151/95 mmHg SpO2: 99% 或 GCS: E 4 V 5 M 6

三、運送安全評估:(醫師勾選)

| 運送等級 | 病況 | 陪同人員 | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A級 | 成人(>18歲) <input type="checkbox"/> 生命徵象不穩定 <input type="checkbox"/> SpO2 < 90% (使用O2 mask) <input type="checkbox"/> SBP < 70 或 MAP < 50 mmHg <input type="checkbox"/> 使用維生設備(例:呼吸器含 Ambu bag、葉克膜、IABP) <input type="checkbox"/> 使用升壓藥或強心劑(SBP < 90 或 MAP < 60 mmHg) <input type="checkbox"/> CPR後ROSC病人 <input type="checkbox"/> 活動性出血且生命徵象不穩定 <input type="checkbox"/> 急性心肌梗塞且生命徵象不穩定 <input type="checkbox"/> 其他 | 小兒(≤18歲) <input type="checkbox"/> 生命徵象不穩定 <input type="checkbox"/> 使用維生設備(例:呼吸器含 Ambu bag、葉克膜、IABP) <input type="checkbox"/> 活動性出血且生命徵象不穩定 <input type="checkbox"/> CPR後ROSC病人 <input type="checkbox"/> 使用升壓藥或強心劑(SBP低於此年齡之正常下限) <input type="checkbox"/> 其他 | 醫師(必要) <input type="checkbox"/> 護理人員 <input type="checkbox"/> 專科護理師 <input type="checkbox"/> 呼吸治療師 <input type="checkbox"/> 醫師評估需要或呼吸器重症病患(FiO2 ≥ 60% 或 PEEP ≥ 10 cmH2O) <input type="checkbox"/> 傳送人員 ※必要設備: <input type="checkbox"/> 攜帶式生理監視器 <input type="checkbox"/> 或血氧濃度監測儀 |
| | <input type="checkbox"/> 生命徵象不穩定且未達A級 <input type="checkbox"/> 使用鎮靜藥物有呼吸抑制之風險 <input type="checkbox"/> 意識改變躁動不安,但無插氣管內管者 <input type="checkbox"/> 24小時內曾接受長時間手術(大於12小時) <input type="checkbox"/> 24小時內曾意識喪失或急救者 <input type="checkbox"/> 24小時內拔除氣管內管 <input type="checkbox"/> 有活動性出血但生命徵象穩定 <input type="checkbox"/> 呼吸器無法脫離需下轉另一個單位 | <input type="checkbox"/> GCS降低分數 ≥ 2分 <input type="checkbox"/> 麻醉恢復之病人 <input type="checkbox"/> 急性心肌梗塞且生命徵象穩定 <input type="checkbox"/> 其他 | <input type="checkbox"/> 護理人員 <input type="checkbox"/> 專科護理師 <input type="checkbox"/> 呼吸治療師 <input type="checkbox"/> 醫師評估需要或呼吸器重症病患(FiO2 ≥ 60% 或 PEEP ≥ 10 cmH2O) <input type="checkbox"/> 傳送人員 |
| 給氧裝置 <input type="checkbox"/> 無 <input type="checkbox"/> 鼻導管 <input type="checkbox"/> 氧氣面罩 <input type="checkbox"/> T-piece <input type="checkbox"/> Ambu bag <input type="checkbox"/> 其他 | | | |
| 攜帶設備 <input type="checkbox"/> 無 <input type="checkbox"/> 電擊器 <input type="checkbox"/> 血氧濃度監測儀 <input type="checkbox"/> 氧氣筒 <input type="checkbox"/> IV Pump <input type="checkbox"/> EKG monitor <input type="checkbox"/> BP monitor <input type="checkbox"/> 其他 | | | |

擷取資訊

萃取結果

- 1.姓名: [redacted]
- 2.病歷號碼: [redacted]
- 3.性別: 男
- 4.運送日期: 08年1月3日
- 5.測量時間: 時分
- 6.HR: 00次/分
- 7.RR: 16次/分
- 8.BP: 15195mmHg
- 9.SpO2: 98%
- 10.GCS: E 4 V 5 M 6
- 11.運送目的: 檢查轉床

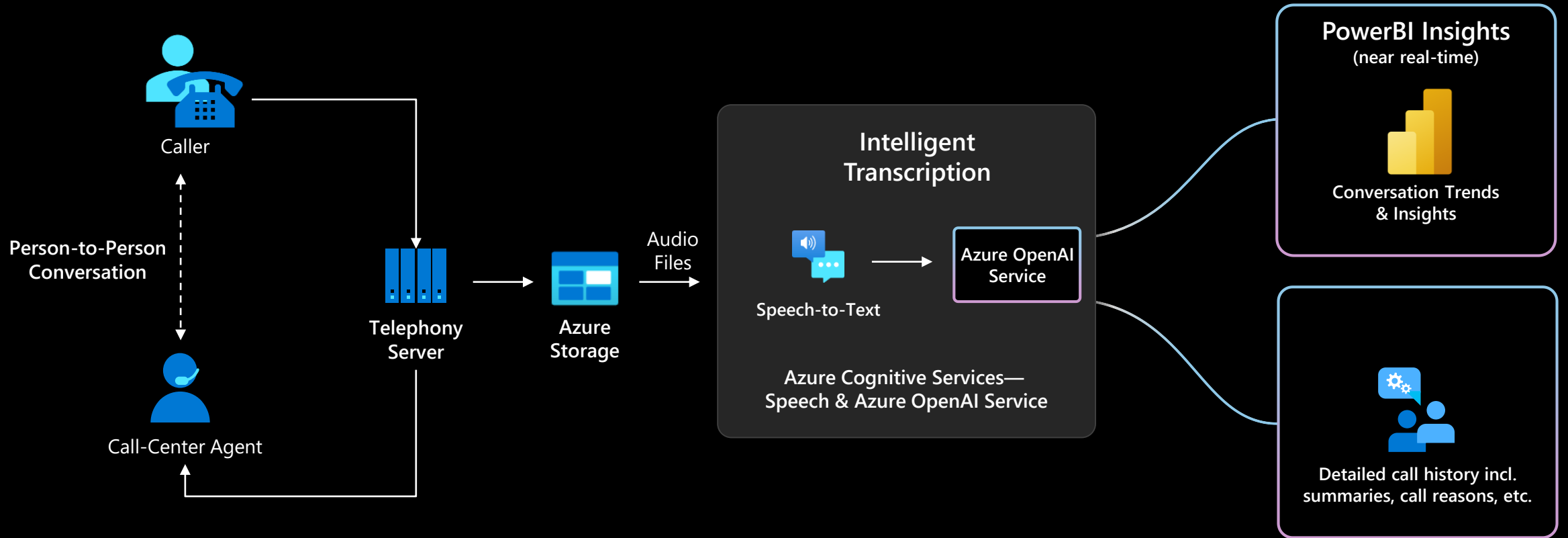
萃取項目

- 1.姓名
- 2.病歷號
- 3.性別
- 4.運送日期
- 5.測量時間
- 6.HR
- 7.RR
- 8.BP
- 9.SpO2
- 10.GCS
- 11.運送目的

病患客服關係系統

Contact Center Patient Engagement

Extract rich insights from call transcripts

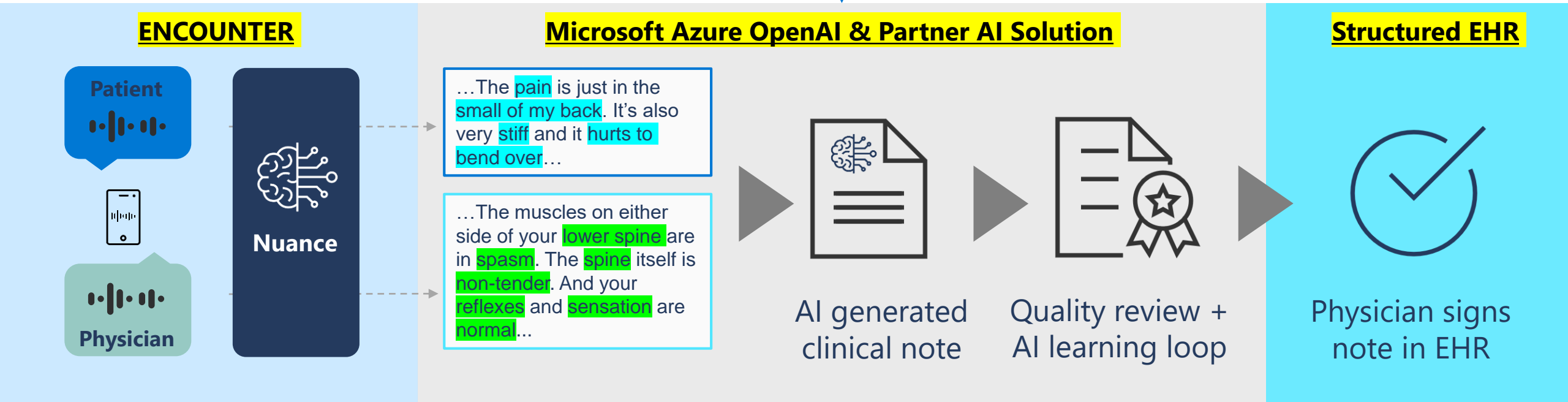


微軟語音轉文字 -> OpenAI摘要重點與關鍵字 -> 結構化病歷寫入



Securely captures multi-person conversations in person or virtual consults

From patient encounter to final note







Search or type a command



Calendar

Meet now + New meeting

Today < > January 2021

Work week

| | 6 Monday | 7 Tuesday | 8 Wednesday | 9 Thursday | 10 Friday |
|-------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 08:00 | | | | | |
| 09:00 | Brandy Flores / Paul Britton Microsoft Teams Meeting | Leigh Dean / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Rachel Rosales / Paul Britton Microsoft Teams Meeting | Leticia McBride / Paul Britton Microsoft Teams Meeting | Bella Ramsey / Paul Britton Microsoft Teams Meeting IL Memorial Health System |
| | Alex Luna / Paul Britton Microsoft Teams Meeting | | Arturo Chavez / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Jay Adams / Paul Britton Microsoft Teams Meeting IL Memorial Health System | |
| 10:00 | Jared Steele / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Carlton Powers / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Chester Bryant / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Clayton Aguilar / Paul Britton Microsoft Teams Meeting | Neil Druckmann / Paul Britton Microsoft Teams Meeting |
| 11:00 | Sonya Nguyen / Paul Britton Microsoft Teams Meeting | Helen Bush / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Patti Riley / Paul Britton Microsoft Teams Meeting | Ellie Williams / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Dina Williams / Paul Britton Microsoft Teams Meeting IL Memorial Health System |
| 12:00 | Hannah Ortega / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Veronica Sims / Paul Britton Microsoft Teams Meeting | Horace Guzman / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Troy Baker / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Jesse Chang / Paul Britton Microsoft Teams Meeting |
| 13:00 | Andrea Rodriguez / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Elizabeth Cooper / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Sonja Lopez / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Ashley Johnson / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Terrence Flores / Paul Britton Microsoft Teams Meeting IL Memorial Health System |
| 14:00 | Neal Reid / Paul Britton Microsoft Teams Meeting | Florence Evans / Paul Britton Microsoft Teams Meeting | | | Mandy Powell / Paul Britton Microsoft Teams Meeting |





Search or type a command



Calendar

Meet now + New meeting



Today < > January 2021

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| 13:00 | Andrea Rodriquez / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Elizabeth Cooper / Paul Britton Microsoft Teams Meeting IL Memorial Health System | | Troy Baker / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Tess Malick / Paul Britton Microsoft Teams Meeting |
| | | | Horace Guzman / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Ashley Johnson / Paul Britton Microsoft Teams Meeting IL Memorial Health System | Terrence Flores / Paul Britton Microsoft Teams Meeting IL Memorial Health System |
| 14:00 | Neal Reid / Paul Britton Microsoft Teams Meeting | Florence Evans / Paul Britton Microsoft Teams Meeting | Sonja Lopez / Paul Britton Microsoft Teams Meeting IL Memorial Health System | | Mandy Powell / Paul Britton Microsoft Teams Meeting |

My calendar

Jesse Chang / Paul Britton

Friday, January 10th, 2021 12:00 PM - 12:30 PM

Join

Edit

Microsoft Teams Meeting

<https://teams.microsoft.com/l/meetup-join...>

Chat with participants

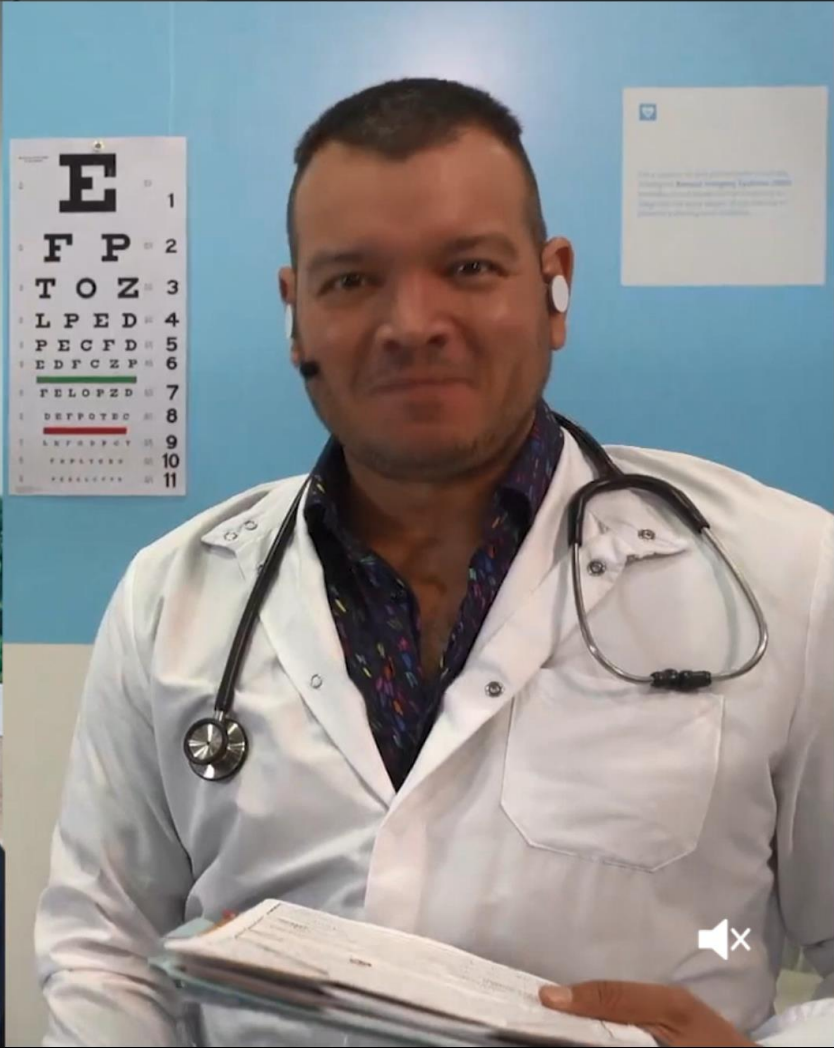
Dr. Paul Britton
Organizer



00:22:06



Leave



Nuance DAX



Nuance DAX

Started at 2:28 PM

Nuance DAX is recording your encounter...

Pause

Finish Recording



[Doctor]: Good morning! I'm Dr. Britton.

[Patient]: Good morning, doctor.

[Doctor]: How's your day going?

[Patient]: Not too bad. Today is my off day and I'll be taking care of some errands today.

[Doctor]: Oh, that's nice. Where do you work?

[Patient]: I'm a logistics manager at Contoso.

[Doctor]: I read here that you were injured on the way to work?

[Patient]: Yes, it's quite embarrassing actually. Happened about two months ago.

[Doctor]: So, two months ago? That's when your shoulder started bothering you for a long time what happened two months ago.

[Patient]: I fell off my bike on my way to work. Fell pretty hard. I tried to. It's stiff to move, I can't raise this hand up, and I can't even take all the way up okay *groans*.

[Doctor]: Do you have any numbness or tingling in your fingertips?

[Patient]: Sometimes. Its um, hard to sleep.

[Doctor]: Any problems with your neck? Or history of neck issues? No, okay? And how is your how is your I know you said it's difficult to get it up but can you bring it straight up this way? *Lifts right arm directly overhead*

[Patient]: *shakes head* No issues with my neck.

[Doctor]: Let's take a look at you, okay? With your thumb down at your side, bring it all the way up high as you can.

[Patient]: It feels a little weird.

[Doctor]: Ok, go ahead and relax. Put your right hand on your left shoulder, cross body. Now take your left hand onto your right elbow. Slowly lift your right elbow with your left hand and tell me if it hurts.

[Patient]: A little bit of pain, yeah.

[Doctor]: I'd like to get an MRI if it's alright with you. Also, I think a cortisone injection will probably help you sleep. MRI will need to be done before the injection since the MRI can cloud the imaging.

[Patient]: I can get the MRI done today. For the cortisone injection, I can come back after imaging is done.

[Doctor]: Neurovascularly intact. Right shoulder, rotator cuff tendinitis. Opinion is likely a small tear opposed to just straight tendinitis or tendinopathy. I'd like to get an MRI, discussed all options, patient wishes to proceed with cortisone injections and physical therapy.

[Doctor]: Good morning! I'm Dr. Britton.

[Patient]: Good morning, doctor.

[Doctor]: How's your day going?

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Age 32

Gender Male

Date of Birth 12 / 11 / 1988

Jesse

CHIEF COMPLAINT

Right shoulder pain.

HISTORY OF PRESENT ILLNESS

Jesse is a 32-year-old right-hand-dominant male who presents to the office today for evaluation of right shoulder pain. The patient sustained a right shoulder injury 2 months ago when he fell off of his bike onto his right upper extremity. He reports stiffness and difficulty raising his arm. The patient endorses intermittent numbness and tingling in his fingertips. He denies a history of neck issues.

SOCIAL HISTORY

The patient works as a logistics manager at Contoso.

CURRENT MEDICATION

Aleve for right shoulder pain.

ALLERGIES

None.

PHYSICAL EXAM

GEN: Alert and oriented x 3, No apparent distress, well developed and well nourished.

Psych: Cooperative on exam, normal affect.

HEENT: Normocephalic/at traumatic, extraocular movement intact, anicteric sclerae.

Cardiovascular: Regular rate.

Pulmonary: Non-labored breathing with no wheezing.

Abdomen: Soft, non-tender, non-distended.

次世代數位病理人工智慧平台

加速導入數位病理架構，整合病理AI落地臨床，提升癌症診斷品質及效率

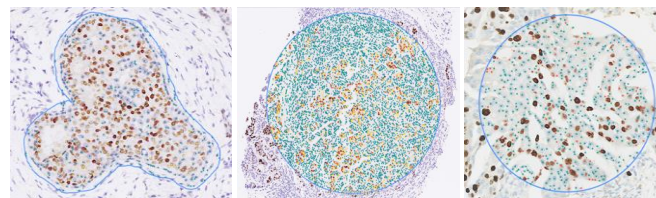
aetherSlide
次世代數位病理平台

導入機構橫跨台、日、德

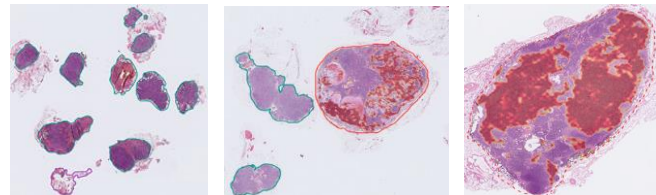
- 國內數位病理系統市佔率第一
- 透過病理流程數位化，使AI落地整合臨床
並領先驗證AI的臨床效益
- 台大醫院、長庚醫院體系臨床導入數位病理AI
- 開發數位病理AI、深耕AI技術，發表超過20篇期刊
包含2篇Nature communications



AI Apps 乳癌免疫染色定量 CE

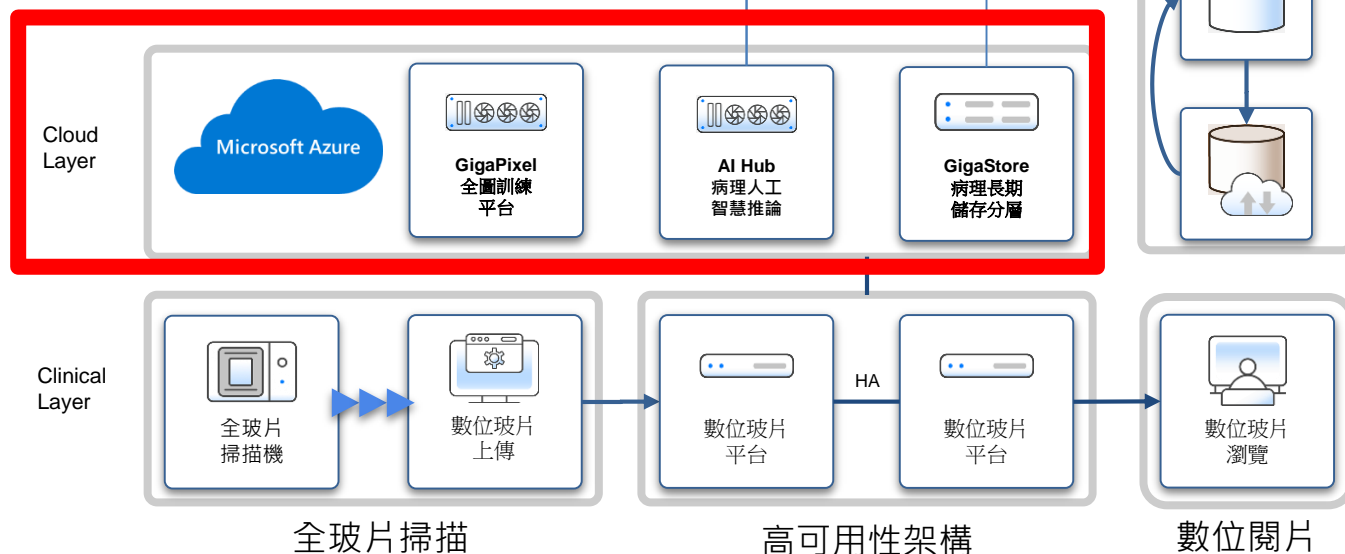


AI Apps 胃癌淋巴結轉移偵測 CE



AI Hub/AI Apps
數位玻片人工智慧應用

GigaStore
數位玻片長期儲存分層



應用微軟**彈性雲端架構**，串接**病理AI研究開發**，打造**癌症研究整合式資料庫**

彈性架構部署，加速數位病理及AI落地，提升臨床效益



- 降低實體玻片傳遞及儲存，提升診斷及癌症跨團隊溝通效率
- 導入多種病理輔助AI應用，提升判讀效率及提升診斷敏感度
- 運用雲端儲存彈性擴充，降低初期導入門檻

串連臨床及研究流程，建立癌症整合資料庫，打造研發基礎



- 以癌症案例為中心，建立超高解析病理影像主題資料庫
- 橫向串連多種資料屬性，以單一個案為中心整合
- 延伸藥物及治療研發，打造精準診斷對應精準治療

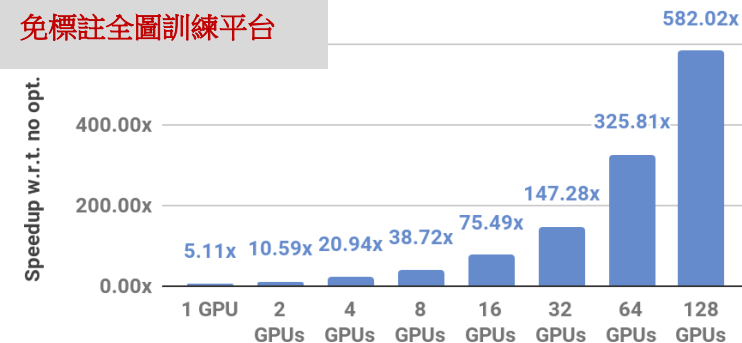
運用免標註全圖訓練平台，自主開發人工智慧應用，降低訓練成本



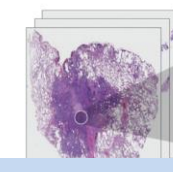
- 採取免細節標註方式開發，降低醫師標註人力耗用
- 減少人工智慧開發技術人力依賴，解除研發瓶頸
- 建立開發及部署閉環流程，建立持續更新的數位病理AI應用

GigaPixel

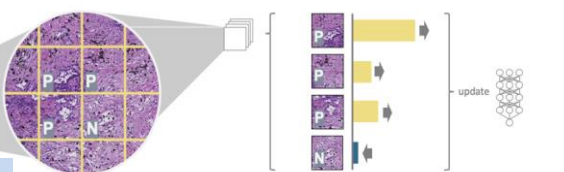
免標註全圖訓練平台



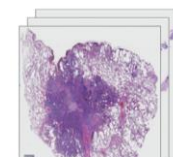
在雲端Scale-out環境，可達**582倍**訓練加速



傳統切割法



每片標註需要花費醫師**30分鐘**以上



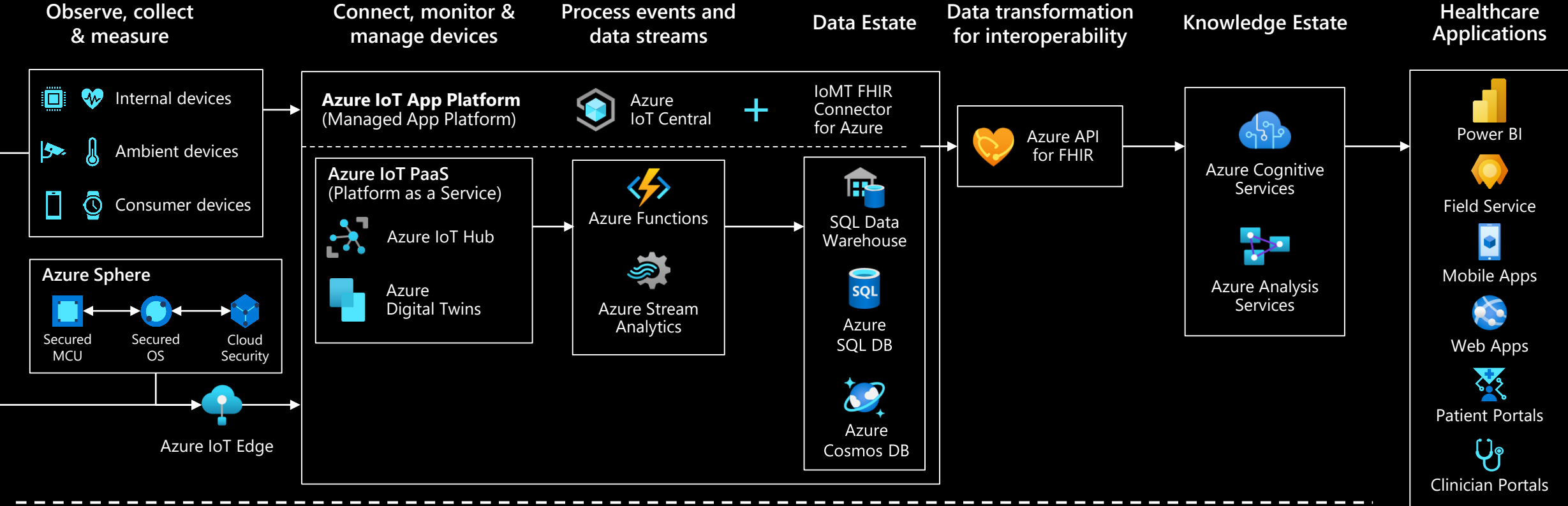
全圖訓練



只需針對全玻片進行標註

Solution Overview: Real-Time Tracking of Medical Devices

The most comprehensive portfolio of IoT and Edge offerings in the market



Built with end-to-end security & compliance: HIPAA, HITRUST, GDPR

JuboLink 次世代智慧雲端護理量測推車



JuboLink 次世代智慧雲端護理量測推車

→ GO TO TODAY

Monday, 2023/6/22

- 100-B Anthony Similovitis 07:00 Blood Glucose
- 110-B Tony Ling 08:00 Vital Signs**
- 110-C Nadia Huang 08:00 Vital Signs
- 10 Natalie Liu 08:00 Vital Signs
- 100-B Anthony Similovitis 16:00 Blood Glucose

Tuesday, 2023/6/23

- 100-B Anthony Similovitis 07:00 Blood Glucose

× Create New Record

110-A Nadia Huang

Vital Signs

Temp (°C) **37.8**

HR (bpm) **60**

RR (Breath/min) **12**

Task

110-B Tony Ling

Item: Temp, HR, RR

Vital Signs

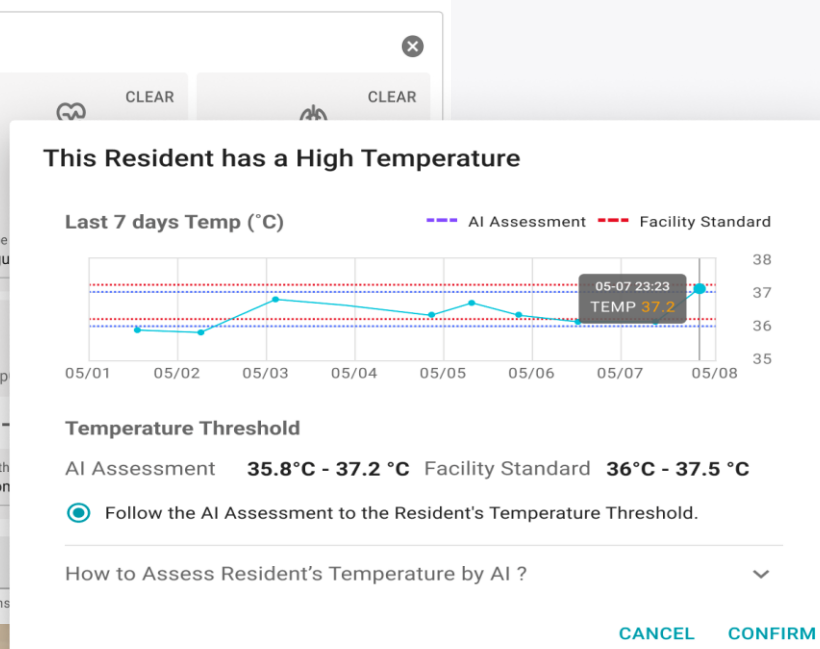
Temp (°C) --

BP (mmHg) -- / --

Position

Note Text

This note will upload with patient's vital signs



IoT自動上傳

整合藍芽量測設備，量測數值直接上傳系統，減省抄寫時間



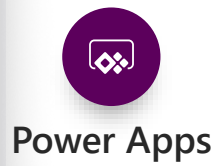
AI精準照護

個人化生命徵象AI模型，輔助照護者更準確地判斷個案數值異常情況。



每日工作清單

輕鬆地管理你的每日工作，在繁忙的照護工作中也不再遺漏任何任務。



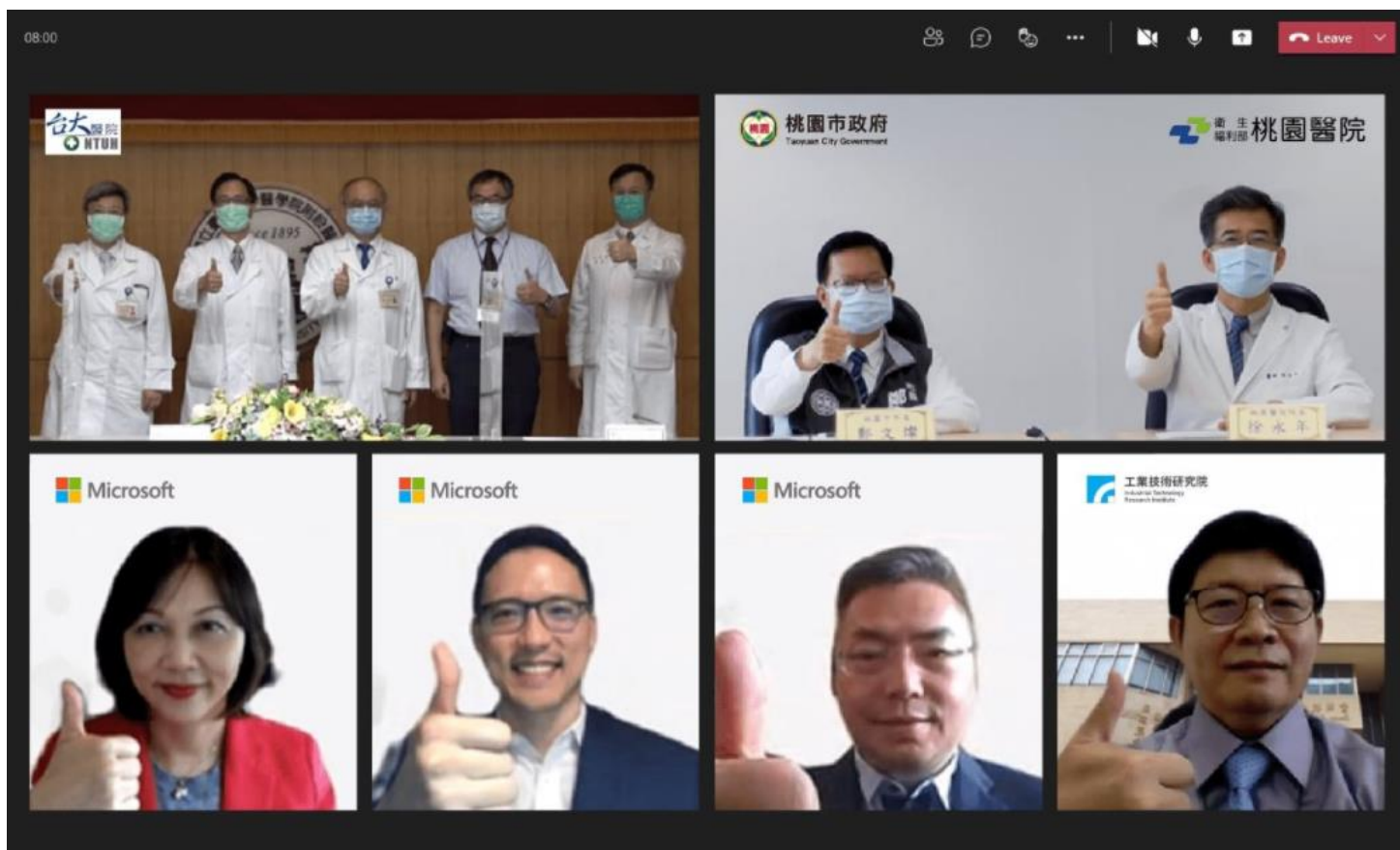
輕巧好移動

可以輕鬆推至狹窄的病床之間，與被照顧者的距離更接近

JuboLink 次世代智慧雲端護理量測推車

臺大醫院 x 部桃醫院 x 工研院 x Microsoft 智慧醫療啟動 預防快樂缺氧猝死、零接觸診療守護醫護安全

[智慧醫療啟動 預防快樂缺氧猝死、零接觸診療守護醫護安全 – 微軟新聞中心 \(microsoft.com\)](#)



護理人員透過微軟HoloLens混合實境頭戴式裝置，可將視線所見的環境影像傳送回遠端護理站，遠端醫師不需要進到病房接觸患者，也能透過微軟HoloLens混合實境頭戴式裝置回傳畫面，看到相同且立體的現場實景，給予即時的醫療診斷

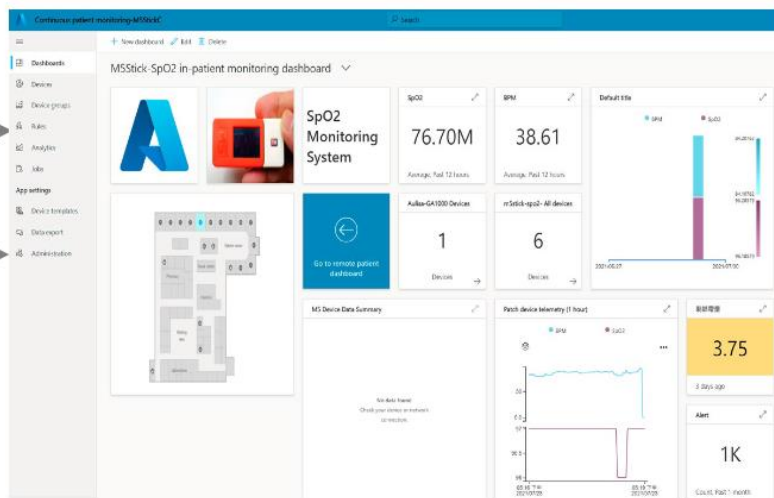
Self-health Monitoring System Architecture

Highly Extensible 1st and 3rd Sensors Data Ingestion

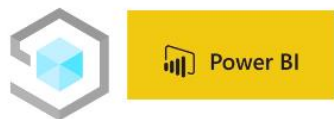


Plug & Play

Common Monitoring Platform for Personal History and Enterprise Analytics



Health Internet of Me
Smart Monitoring Dashboard
built with Azure IoT Central



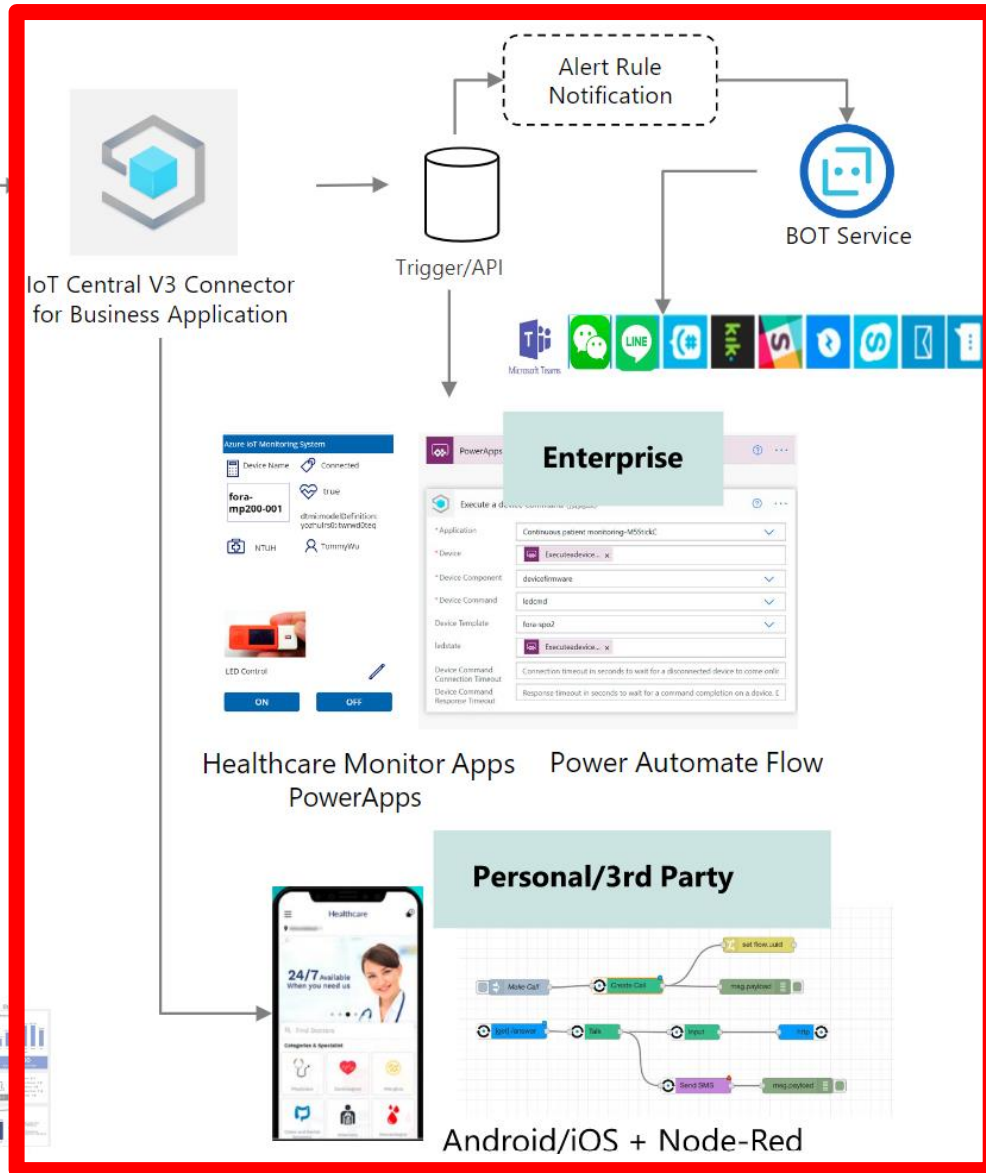
Blob Storage

Anomaly Detector



AI & Data Analytics

App Control and Alert Notification



Sensor Gateway

- Azure Sphere
- ESP 32
- M5
- Industrial PC
- Raspberry Pi
- Others

Sensors

- SpO2
- Heart Rate
- Blood Pressure
- Thermal
- ECG
- MMwave Sensors

Healthcare Monitor Apps PowerApps Power Automate Flow

Personal/3rd Party

Android/iOS + Node-Red

部立桃園醫院/臺大醫院 - IoT Device 連續性資料整合系統範例影片



醫療大樓門禁注意事項

二十四小時開放進出

訪客時間：09:00 至 21:00 止

禁菸

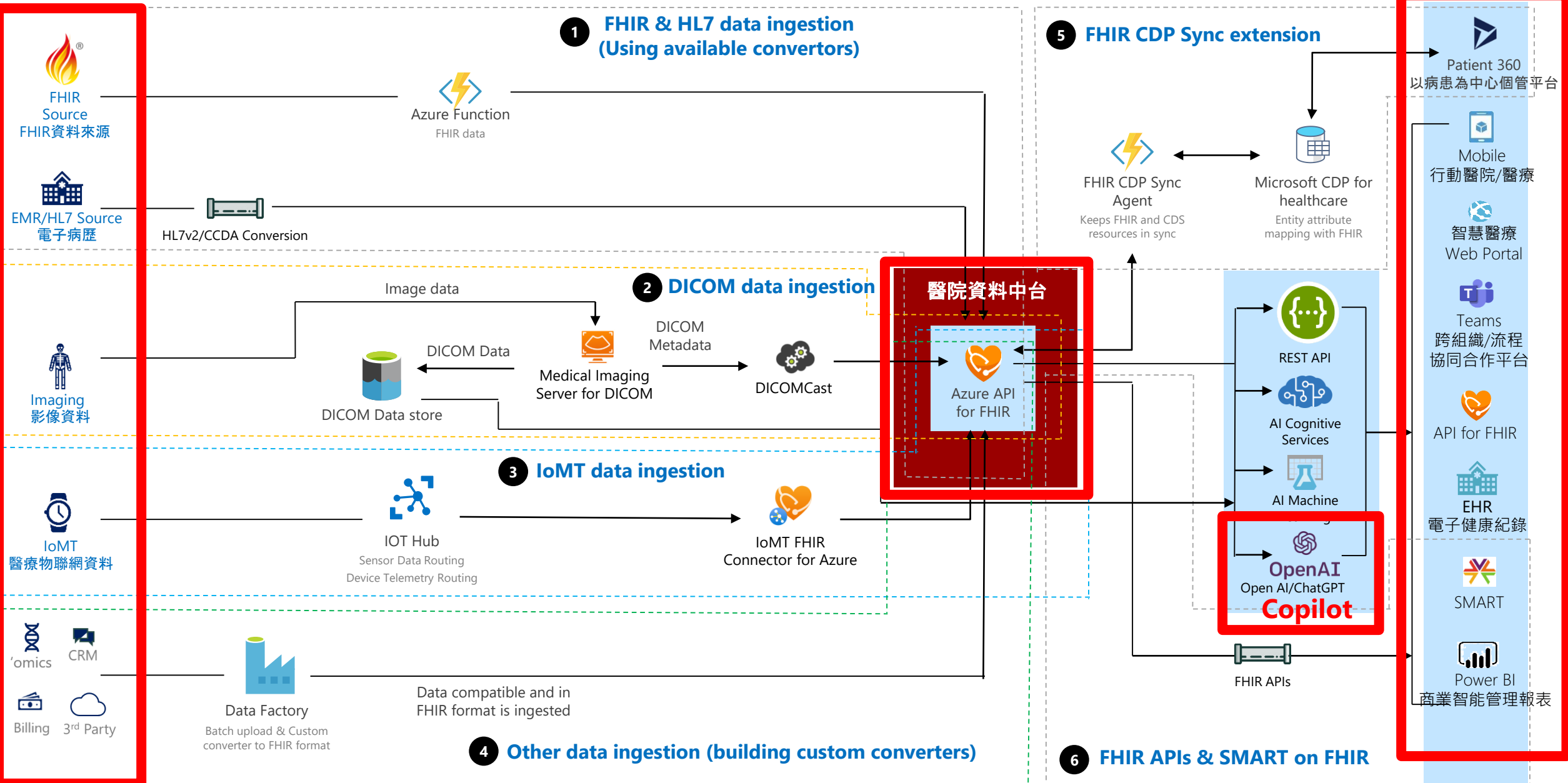
禁火

禁飲食

禁寵物

禁自行車

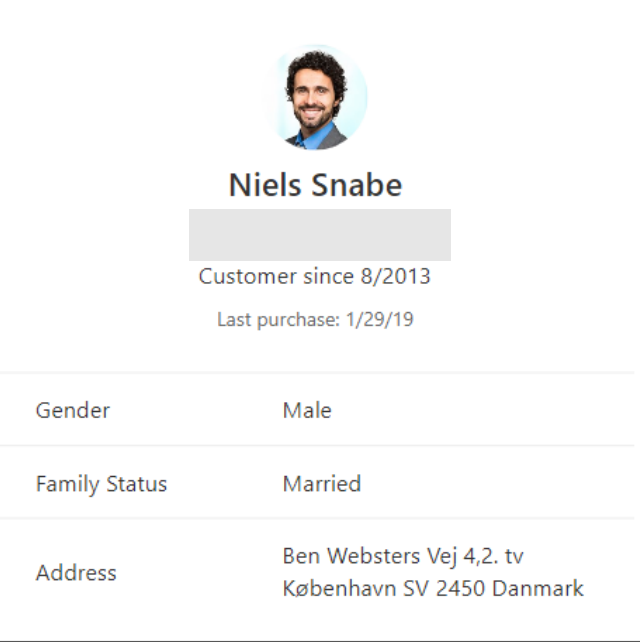
智慧醫院新境界 - AI Copilot Everywhere in Hospital



目標 : AI-embedded Patient 360 HIS – 賦能醫護同仁提供個人化的智慧醫療服務

(以病患為中心360度的資料匯聚平台)

Patient Profile (示意圖)



Niels Snabe
Customer since 8/2013
Last purchase: 1/29/19

| | |
|---------------|-------------------------------------------------------|
| Gender | Male |
| Family Status | Married |
| Address | Ben Websters Vej 4,2. tv København SV 2450 Danmark |

AWARENESS

- 6 Activities
- 3 Social Activities
- 2 Phone Calls

[View More](#)

ENGAGEMENT

- 2 Open Leads
- 75% Qualification Rate
- 70 Engagement Score

[View More](#)

FULFILLMENT

- \$6,600 Lifetime Spend
- \$2,200 Last Purchase Amount
- \$850 In-Process Sales

[View More](#)

SUPPORT

- 0.40 Churn Score
- 1 High Priority Cases
- 2 Active Cases

[View More](#)

DATA SOURCES AND SEGMENTATION

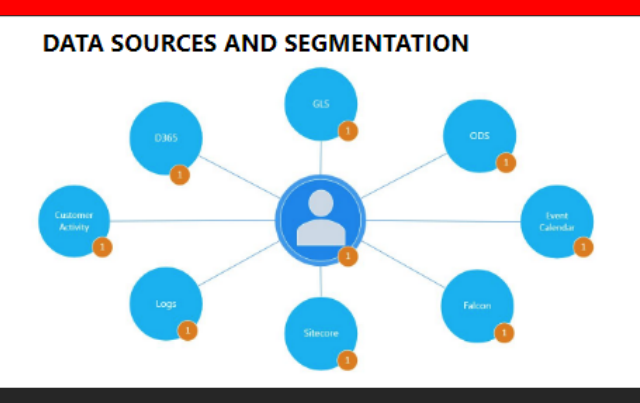


Diagram illustrating data sources and segmentation around a central patient profile icon. The sources include: O365, CRM, ODS, Event Calendar, Falcon, Signature, Logs, and Customer Activity.

INTERESTS

Similar Profiles

| | |
|--------------------|-------------|
| Movies & Films | High |
| Wedding Planning | Medium-High |
| Personalized Gifts | Medium |
| Party Supplies | Medium-Low |
| Gifts & Occasions | Low-Medium |
| Gift Baskets | Low |

Timeline

Activities (9)

BEFORE THIS MONTH

- Promotion Consumed - 7/27/18
- Copilot副駕駛
- Promotion Consumed - 7/27/18
- Gardens - 5/10/18
- Promotion - 5/7/18
- Promotion - 5/7/18 "Free Royal Beer"

各式Medical AI

Copilot副駕駛

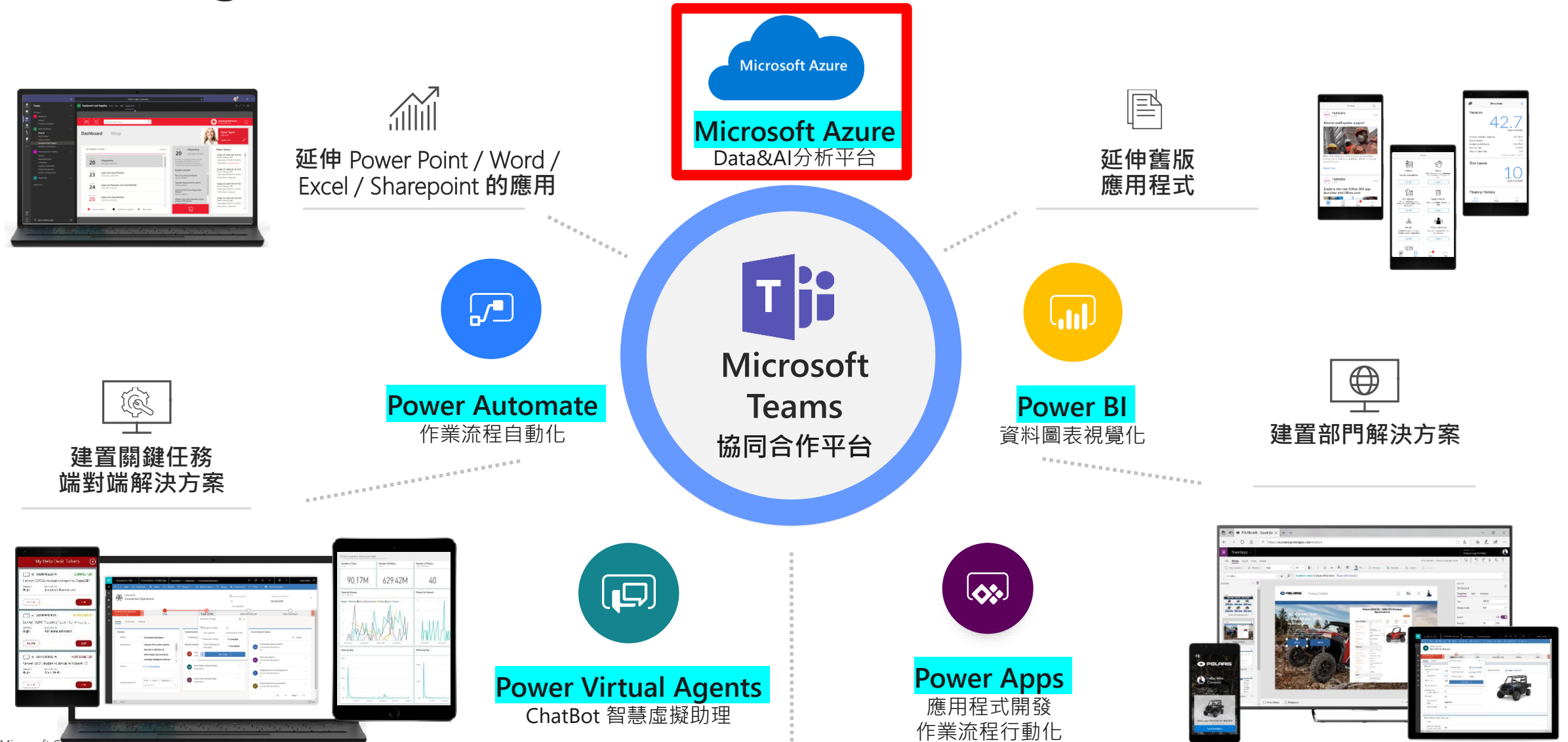
協助醫事人員
增進工作效率

資料整合、加值應用與AI Copilot後的下一步？

透過Power Platform打造自動化/行動化醫護流程、O365 Teams打通醫護協作平台

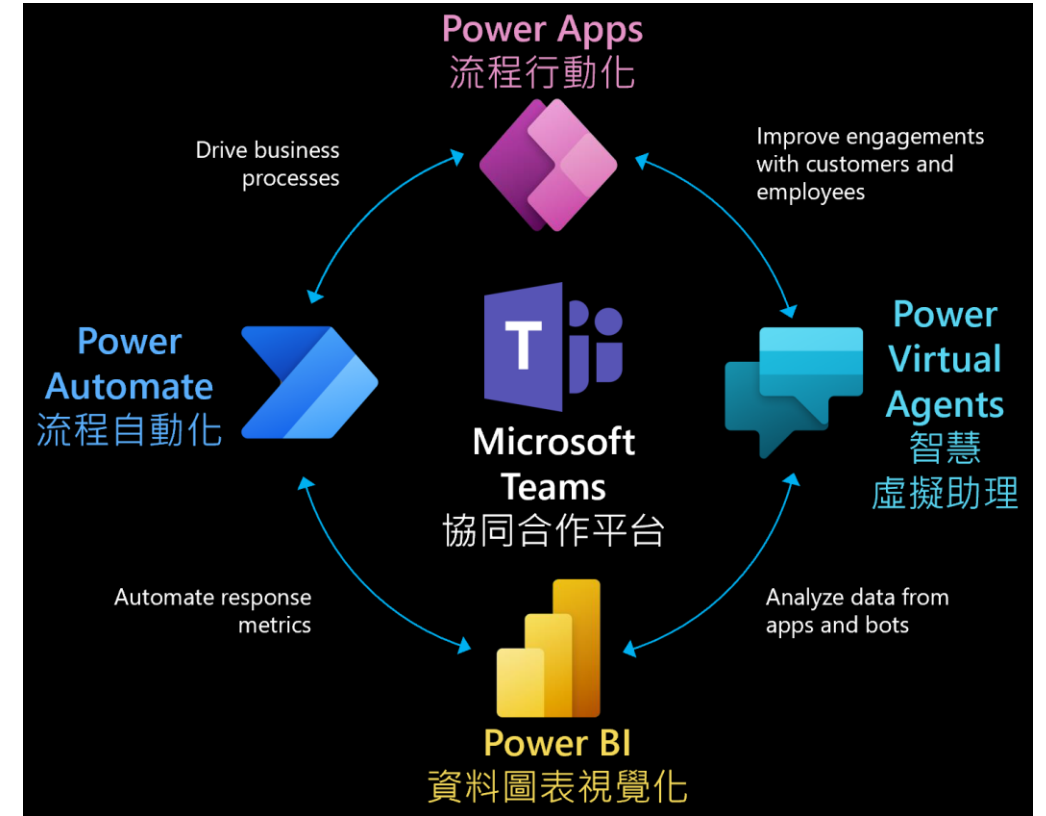
透過 Teams+Power Platform+Azure 在醫院內推動數位轉型

- Bring Data&AI to Where You Work and Who You Serve -



配合醫學中心評鑑所需 – 以提升病人安全為例

資料來源:財團法人醫院評鑑暨醫療品質策進會執行長 王拔群 教授



- 以O365 Teams為醫護協同合作溝通平台的核心，強化團隊合作、加速訊息溝通的傳遞，提升醫護作業的效率
- 整合Power BI的圖表視覺化，透過Power Automate針對AI/BI異常值進行自動化Teams通報，以及提供低程式代碼(Low Code)、零程式代碼(No Code)的Power Apps工具，加速醫療照護行動化需求Apps的開發與推廣，並整合AI智慧虛擬助理，來提升病人照護安全的品質。

透過O365 Planner Task 指派跨團隊工作與自動化統計

待辦事項不再需要筆記本

E.g., 危急值通報、護理作業管理

應用情境 督導用來確認護理長們工作進度，需有工作清單及確認完成與否的清單。

面臨挑戰及客戶痛點 過往無法得知團隊成員是否已完成工作，無從考核

解決方案 Teams Planner Task

效益 能有效調閱工作清單
落實工作稽核制度

行政暨跨團隊會議

+ 新增工作

1月 督導長

- 1月團隊會議MICU
- 開會
- 公文

01/27 0/2

護理部-沈

病房會議

+ 新增工作

1月 督導長

- 111年1月病房會議MICU
- 1/26開會
- 公文
- 會議紀錄

01/31 0/3

護理部-沈

已完成的工作 3

12月 督導長

- 12月團隊會議MICU

2021/12/30 2/2

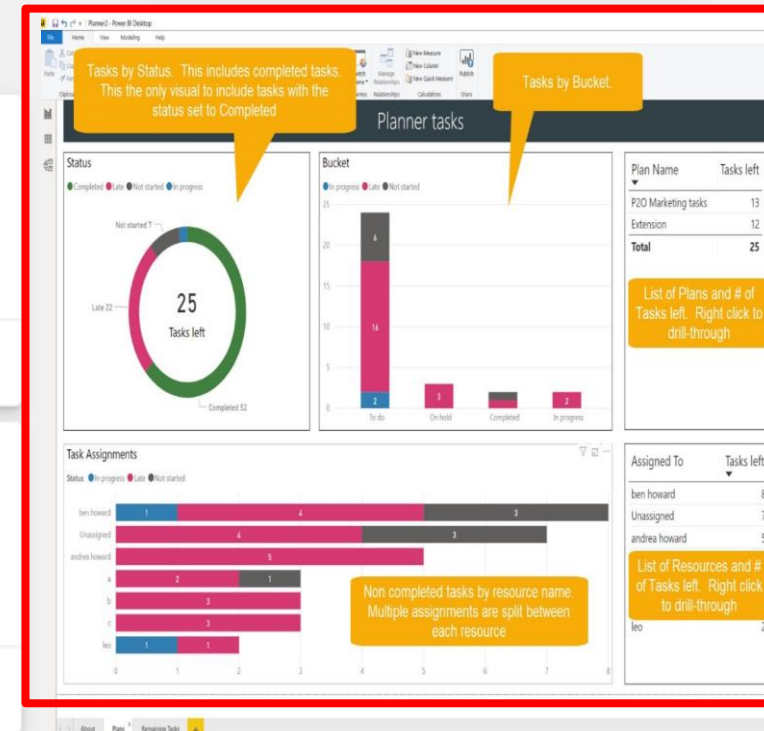
護理部-沈 於 01/21 完成

1月 督導長

- 111年1月行政會議MICU

01/17 2/2

護理部-沈 於 01/21 完成



新竹臺大分院與微軟結盟 加速智慧醫療發展

2022/12/14 - 新竹臺大分院 - #新竹臺大分院 #2022年智慧醫療暨智慧流程轉型國際研討會 #結合BI及AI運用於醫院日常管理... | Facebook



新竹台大分院14日攜手台灣微軟股份有限公司，舉辦2022年智慧醫療暨智慧流程轉型國際研討會。(新竹台大分院提供 / 邱立雅竹縣傳真)

新竹臺大分院攜手台灣微軟股份有限公司於12月14日(三)上午8時在生醫醫院竹北院區舉辦「2022年智慧醫療暨智慧流程轉型國際研討會」，邀請到新竹縣政府衛生局股東成局長、台灣微軟卞志祥總經理、臺灣大學張上淳副校長、臺灣大學醫學院倪衍玄院長以及臺大醫院吳明賢院長等貴賓與會指導。藉由**分享導入Power BI儀表板及Power Automate及Teams**，應用於行政管理、醫務管理及品質管理之經驗，見證醫院在簡化行政及醫療照護流程，提升工作效率及醫療照護品質之實績。研討會共有115家各層級醫療院所及廠商共襄盛舉，並吸引超過410位產業界人士與醫療院所人員以視訊方式參與交流。📺

👤**新竹臺大分院余忠仁院長表示**：「發展智慧醫療乃全球趨勢，成為智慧醫療典範亦是本院的願景之一。經疫情三年來的洗禮，更加速智慧醫院暨智慧流程轉型之推動。在全球醫院面對大量臨床照護與行政管理數據，紛紛利用Power BI數據視覺化管理作為解決方案之際，本院亦不落人後。本院自2021年起與台灣微軟合作，**推行並鼓勵全院同仁善加運用Power BI儀表板及Power Automate與Teams的行動化簽核情境，境，期透過數據與Power BI、AI完美結合，打造數據導向之智慧醫院。**」

新竹臺大分院智慧醫療創新中心主任譚慶鼎副院長表示：全球推動智慧醫療及數據導向之醫院管理的浪潮下，除了國內相互觀摩學習及腦力激盪外，也需要吸取國際同儕的經驗，因此邀請Microsoft Asia、Austin Health、Dr. Sardjito General Hospital等之國外專家與會。此次的國際研討會聚焦於『國際論壇』、『行政管理』、『醫務管理』以及『品質管理』四大主軸，由國內外專家、臺大總院及本院，**共同分享應用Power BI儀表板或Power Automate、Teams於臨床醫療、醫事及事及行政作業中，展現醫護、行政、和跨團隊協同合作、資源共享，提升組織橫向溝通效率與品質之成果！**」

2022/12/14 新竹台大分院 【Microsoft 365 + Power Platform】 黑客松競賽主題



| 報名類別 | 主題 |
|------------------------------------------------------|--------------------------|
| ["Power BI 儀錶板","Power Automate 流程自動化","Teams 團隊應用"] | 藥劑部大數據分析 |
| ["Power Automate 流程自動化","Teams 團隊應用"] | 診療行為申請單-研究醫令設定流程改善 |
| ["Power BI 儀錶板","Teams 團隊應用","Power Automate 流程自動化"] | 健保醫療費用大數據分析及Teams Bot機器人 |
| ["Teams 團隊應用","Power BI 儀錶板","Power Automate 流程自動化"] | 提供各科部經營管理指標服務量資訊分享 |
| ["Power Automate 流程自動化","Power BI 儀錶板","Teams 團隊應用"] | 住院床位情形 |
| ["Power BI 儀錶板"] | 全方位急診品質指標資訊化管理 |
| ["Teams 團隊應用"] | 線上離職問卷分析 |
| ["Teams 團隊應用"] | 建置教學機器人 |
| ["Power Automate 流程自動化","Power BI 儀錶板","Teams 團隊應用"] | 科部損益BI系統 |
| ["Power BI 儀錶板"] | 護理人力管理 |
| ["Power Automate 流程自動化","Teams 團隊應用"] | PowerAutomate 訂便當 |
| ["Power BI 儀錶板"] | 護理部財產管理 |
| ["Power BI 儀錶板","Teams 團隊應用"] | 護理部差勤管理 |
| ["Power Automate 流程自動化","Teams 團隊應用","Power BI 儀錶板"] | 護理病房會議呈核流程 |
| ["Power BI 儀錶板","Power Automate 流程自動化","Teams 團隊應用"] | 血液透析廢管偵測儀表板 |
| ["Power BI 儀錶板","Power Automate 流程自動化","Teams 團隊應用"] | 開心手術術後管理儀表板 |
| ["Power BI 儀錶板"] | 門診動態報表 |
| ["Power Automate 流程自動化"] | 護理部SOP審查流程自動化 |
| ["Teams 團隊應用"] | 臨床試驗計畫Q&A-自動回覆功能設置 |
| ["Power Automate 流程自動化","Teams 團隊應用"] | [共同研究室空間審查意見表]簽核流程資訊化 |
| ["Power BI 儀錶板","Teams 團隊應用"] | 精準醫療收案分析 |
| ["Power BI 儀錶板"] | 住院病人抗藥性細菌監測 |
| ["Power BI 儀錶板","Teams 團隊應用","Power Automate 流程自動化"] | 疾病統計報表 |
| ["Power BI 儀錶板"] | 危急值簡訊回覆分析 |
| ["Teams 團隊應用"] | 建置品管負責人日常化管理及資源共享平台 |
| ["Power BI 儀錶板"] | 活用視覺化儀表板提升病人就醫經驗調查應用 |
| ["Power BI 儀錶板"] | 跨院區安全事件即時資料分析與管理 |
| ["Power Automate 流程自動化"] | 員工健康監測 |
| ["Power BI 儀錶板","Power Automate 流程自動化","Teams 團隊應用"] | 疑義處方監測 |
| ["Power BI 儀錶板","Power Automate 流程自動化","Teams 團隊應用"] | 資訊服務自動化整合 |

微軟M365/O365 Teams + Power Platform雲端醫護協同合作平台 - 自2021年7月起新簽立的合約客戶名單

| 公/私立 | 醫院名稱 | 微軟合約種類 | 採用規格 | 備註 |
|------|------------------------|----------------------|-----------------------|--------|
| 公立 | 台北榮民總醫院 | Enterprise Agreement | M365 E3 + O365 E1 | 公開招標 |
| 公立 | 某南部醫學中心 | Enterprise Agreement | O365 E1 + O365 F3 | 共契 |
| 公立 | 某南部區域醫院 | CSP | O365 E3 + O365 F3 | 共契 |
| 公立 | 全台灣26所衛生福利部部立醫院 | MPSA | M365 E3 + M365 F3 | 公開招標 |
| 公立 | 台大醫院總院 | Enterprise Agreement | O365 E1 + O365 F3 | 公開招標 |
| 公立 | 新竹台大分院 | Enterprise Agreement | M365 E3 + M365 F3 | 公開招標 |
| 公立 | 某中南部區域醫院 | Enterprise Agreement | O365 E1 + O365 F3 | 共契 |
| 私立 | 某北部準醫學中心 | CSP | O365 E3 + O365 F3 | 私立體系採購 |
| 私立 | 某北部醫學中心 | Enterprise Agreement | O365 E1 + M365 F3 | 私立體系採購 |
| 私立 | 某北部區域醫院+公立醫學中心/準醫學中心體系 | Enterprise Agreement | M365 E3/E5 | 私立體系採購 |
| 私立 | 某中部醫學中心 | Enterprise Agreement | M365 E3/E5 | 私立體系採購 |
| 私立 | 某中部醫學中心 | Enterprise Agreement | M365 E3/E5 | 私立體系採購 |
| 私立 | 某中部醫學中心 | Enterprise Agreement | M365 E5/E3+O365 E1/F3 | 私立體系採購 |
| 私立 | 某南部醫學中心 | Enterprise Agreement | O365 E1 + O365 F3 | 私立體系採購 |
| 私立 | 某南部區域醫院 | MPSA | O365 E3 + O365 F3 | 私立體系採購 |
| 私立 | 某南部區域醫院 | Enterprise Agreement | O365 E3 | 私立體系採購 |

Microsoft 可以成為您智慧醫療發展最佳的合作夥伴

Why Microsoft for Healthcare Partnership?



Healthcare Industry Focus



High Market Share & Microsoft Cloud Penetration Rate



Azure IP Co-sell Mechanism

- **Only Microsoft has focused healthcare industry team**. Both AWS/GCP dissolve specific healthcare business and related team in recent 2 years.
- Microsoft is the only one cloud vendors who has Industry Cloud which is Microsoft Cloud for Healthcare (MC4H) to support healthcare clinical requirements.
- Microsoft Taiwan won **over 70% O365/Power Platform/Azure cloud market share** in public hospitals within 1.5 yrs since 2021, and now aggressively penetrates into private hospitals in 2nd yr in TW
- Representative customers: 台大, 北榮, 北醫/萬芳/雙和, 新光醫, 中國醫, 中山醫, 高榮, 彰基, 奇美, 慈濟, etc...
- Global Top Leading Smart Hospital Reference Case – **Johns Hopkins, Mayo Clinics, Cleveland Clinics**, etc...
- Microsoft not only regard customer as customer, but a partner to go-to-market together. By Microsoft IP Co-sell mechanism on Azure Market Place, every Microsoft's global healthcare salesforce is customer's salesforce, and same as Microsoft's global partner ecosystem.

Market News – Cloud Giants in Healthcare



[Google Health大將離職、下一步面臨解散！科技巨頭的醫療野心還會持續嗎？ | 數位時代 BusinessNext \(bnext.com.tw\)](#)

[Google Health 宣布解散！科技醫療正夯為什麼要裁撤？ - StockFeel 股感](#)

[Google Cloud IoT Core服務將於明年8月關閉 凸顯Google計畫重整物聯網發展策略 | 科技新情報 | udn科技玩家](#)



[亞馬遜關閉遠距醫療服務Care並裁159人 合作方跟進裁員236人 | Anue鉅亨 - 美股雷達 \(cnyes.com\)](#)

[企業客戶不捧場 亞馬遜自遠端醫療大撤退 年底結束Care服務 | Anue鉅亨 - 美股雷達 \(cnyes.com\)](#)

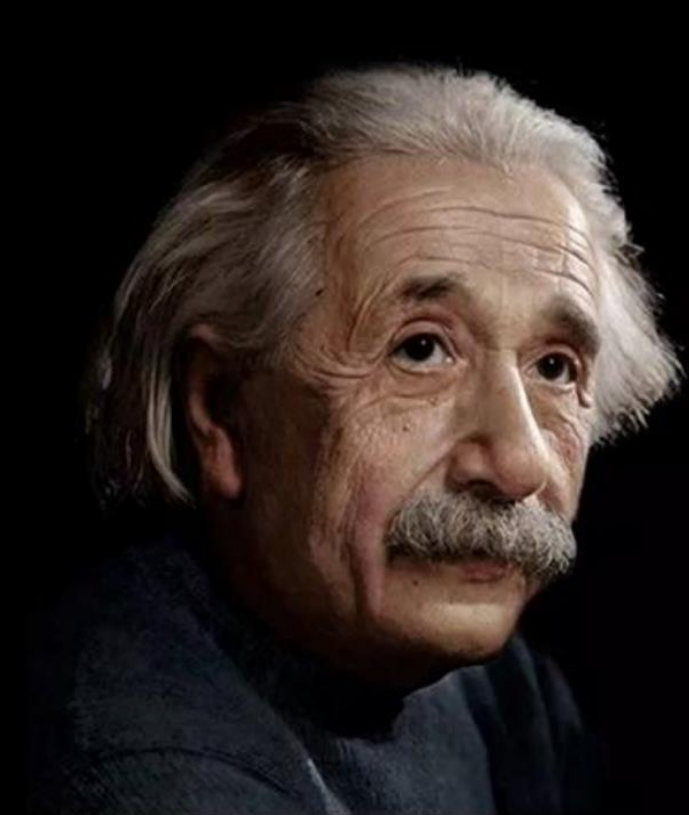
[新竹臺大分院與微軟結盟 加速智慧醫療發展 – 微軟新聞中心 \(microsoft.com\)](#)

[台灣微軟攜手台中榮總 共創智慧照護新里程 – 微軟新聞中心 \(microsoft.com\)](#)

[智慧醫療啟動 預防快樂缺氧猝死、零接觸診療守護醫護安全 – 微軟新聞中心 \(microsoft.com\)](#)

[邁入醫療關鍵十年，微軟攜產官學推動台灣成未來醫療示範場域 – 微軟新聞中心 \(microsoft.com\)](#)





Imagination is more
important than knowledge.
Knowledge is limited.
Imagination encircles
the world.

Albert Einstein / @InspiringThinkn

唯一能限制創造力的，
只有想像力

Logic will get you
from A to B.
Imagination will take
you everywhere.

Albert Einstein

