

整合AI辨識技術與開放資料於氣象轉譯應用：Weather Prophet

Integrating AI Recognition Technology and Open Data in Weather Translation Applications: Weather Prophet

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摘要

氣象資訊是社會大眾日常生活中不可或缺的重要訊息，隨著氣候變遷加劇和極端天氣事件的頻繁發生，快速且具可及性的氣象資訊對於減少災害風險變得至關重要。鑒於社群媒體的發達，氣象資訊的轉譯與傳遞，也變得多元，例如：網站、APP、圖卡等。本研究探索一般民眾對於氣象資訊的需求，提出一個名為「Weather Prophet」的氣象資訊轉譯服務網頁，該網頁透過介接中央氣象署、國家災害防救科技中心及環境部提供之開放資料及Web API，將複雜的日常氣象預報訊息與圖資轉化為簡易的天氣圖卡，透過圖卡中的人物穿搭、背景環境及簡易文字說明，凸顯當日重要的體感氣象資訊與警特報訊息。此外，在民眾長期的天氣預報需求上，則是利用最先進的AI全球預報模式搭配機器學習與國家災害防救科技中心建置之天氣類型資料庫，嘗試進行未來30天之AI人工智慧天氣類型判識。此網頁旨在將複雜的氣象的預報訊息與圖資，轉譯為更貼近生活和實用的氣象資訊，使公眾能夠更好地應對日常天氣變化及極端天氣造成的災害風險。網頁內容與天氣類型判識成果將於會議中呈現與討論。

關鍵字：AI氣象應用、天氣類型判識、開放資料、氣象知識轉譯

Abstract

Weather information is indispensable and important in the daily lives of the general public. As climate change intensifies and extreme weather events occur more frequently, quick and accessible weather information becomes crucial for reducing disaster risks. In view of the development of social media, the translation and transmission of weather information have diversified, utilizing platforms such as websites, apps, and infographics. This study explores the needs of the general public for weather information and proposes a meteorological information translation service webpage called "Weather Prophet". This webpage integrates open data and Web APIs provided by the CWA, NCDR, and the Ministry of Environment. It transforms complex daily weather forecast data and graphics into simple weather infographics. These infographics use the outfit of a virtual character, background weather phenomena, and simple text descriptions to highlight important perceived weather information and alerts. In addition, to address long-term weather forecast needs, the most advanced AI global model is employed, combined with machine learning and a 10-year daily weather type database established by NCDR, to conduct AI weather type classification for the next 30 days. This

webpage aims to translate complex weather forecast data into more practical and user-friendly information, helping the public better cope with daily weather changes and the disaster risks caused by extreme weather events. The webpage and weather type classification results will be presented and discussed in the conference.

keywords : AI global model, weather type classification, open data, Weather information translation