Chimes AI 詠鋐智能

碳帳不是混帳而是智帳：ESG x AI x SCM 交融觸發的火花

人工智慧驅動製造業永續發展

Johnson Hsieh, Ph.D.
Founder & CEO of Chimes AI

Johnson Hsieh

FOUNDER & CEO

The Silicon Review Cover Story for
50 Best Companies to watch 2022

Johnson Hsieh, Ph.D. in statistics, is the founder and CEO of Chimes AI. Over the course of 10 years, Johnson has been a noteworthy leader in data science and artificial intelligence.

He hopes to fulfill his dream to “democratize AI so that it can be accessible to everyone” through **Chimes AI**’s innovative initiatives.

In his spare time, he chairs the “**Data for Social Good Initiative** (d4sg.org)”, using the power of data-driven technology to transform society.

Since 2016, D4SG helps public service organizations, use data analysis to make policy recommendation, improve operational efficiency and stimulate service innovation.

Arctic Code Vault Contributor in 2020 GitHub Archive Program, Git Awards Top 2 in Taiwan and 717 in the Worldwide.

Chimes AI, Inc. © 2022

D4SG Initiative (d4sg.org)

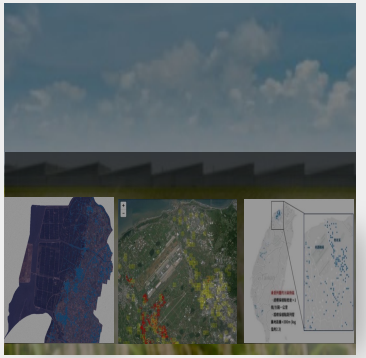
.GOV

.ORG

Data Fellows

Seek Collaboration

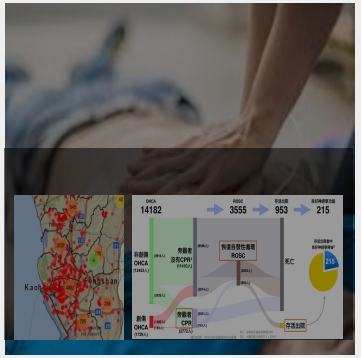
Provide & Learn



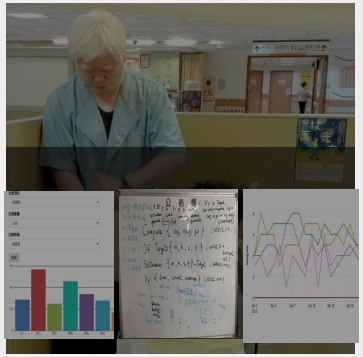
Farmland Pollution Management

Fire Risk Prediction

Domestic Violence Risk Management



Emergency Healthcare Management



Worker Schedule Optimization

Chimes AI, Inc. © 2022

首屆總統盃黑客松五強，憑什麼得獎？

總統府舉辦的第一屆黑客松，終於在6月2日誕生最終的五強，他們憑著什麼可以得獎？

文/ 吳其勳 | 2018-06-03 發表

總統盃社會創新黑客松卓越團隊

- ✓ [永不回頭] 兒少家暴風險預警管理
- ✓ [法扶一如虎添翼] 扶助弱勢法律資源配置最佳化
- ✓ [救急救難一站通] 急救照護通訊與資源整合

[搶救水寶寶] 以機器學習偵測自來水管線漏水

[零時差] 離島偏鄉空中轉診後送整合式服務

蔡英文 Tsai Ing-wen @iingwen · Jun 2

This year, the Presidential Office hosted its very 1st #hackathon. I'm impressed by all the contestants who try to address social problems through #tech, #innovation, & collaboration among governments, experts and programmers! Congratulations to the five winning teams! 👏

Chimes AI, Inc. © 2022

本屆首獎團隊《脫貧自立向前Go》看見身為台灣社會安全網第一線的社工所面臨的困境，社會工作者存在四高困境：「高工時、高壓力、高危機、高負荷」，他們往往犧牲自己陪伴家人的時間，協助身處於高風險環境的人們。

透過「訪視APP」改善社福工作作業流程，解決傳統人工作業瑣碎與效率低落的問題，讓社工的訪視作業流程數位化；再透過大數據與AI人工智慧評估弱勢貧困家庭需求並做出推薦，藉此提升社會救助的整體效能。值得期待的是此計畫構想目前已與台北市政府社會局展開初步合作，期待未來全面解決現行社會福利體系的困境。

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Chimes AI (chimes.ai)

We are a young team of enthusiastic data scientists and software engineers.

Our first AI and data analytics engine launched in February 2021.

Invested by the National Development Angel Fund of the Executive Yuan.

Cover Story of 50 Best Companies to watch 2022 from The Silicon Review.

Chimes AI, Inc. © 2022

Mission of Chimes AI

Chimes AI is making AI accessible to everyone in the ESG movement.

Chimes AI, Inc. © 2022

AI助企業ESG一臂之力 智慧診斷改善製程並減碳

台塑與詠鋐智能合作導入AI MLOps技術，圖為詠鋐智能執行長謝宗震。 李建樑攝

江玟／台北

面對國際與台灣都喊出淨零碳排，國發會公布的淨零路徑圖針對製造業也提出三大面向：製程改善、能源轉換、循環經濟。詠鋐智能長期發展AI技術落地專案，其執行長謝宗震表示，透過No code AI平台上提供給非程式開發者AI加值應用解決方案，協助企業導入AI系統，不僅資訊整合輕鬆上手也可同時達到節能減碳、降低耗能與耗材，落實企業ESG目標。

石化業屬於高資本與高技術密集產業，高度仰賴自動化，台塑在2019年逐步導入智慧診斷，使用感測器偵測，並透過AI掌握設備的風險。台塑保養中心組長鄭琦聰以中醫脈診、西醫聽診與會診診斷，比喻設備監控系統與智慧診斷系統的差異，他表示過往設備異常診斷著重經驗研判，針對各點位分別數值管控觸發、異常，但智慧診斷著重資訊關聯性，以多參數分析，有AI與專家協同診斷。

鄭琦聰表示，台塑初期自行發展的AI模型面臨缺乏維運整合介面，及有效管理機制，導致模型偏差時，無法適時迭代更新。後來台塑與詠鋐智能合作，導入MLOps技術，整合ML機器學習、Dev開發、Ops維運，讓三個團隊能藉由一個標準化作業介面共同快速量化產出AI模型。

透過智慧診斷，廠內繁複機台設備，什麼時候檢修、什麼時間停機，都不再只靠老師傅的經驗，有了最佳化適時保養也將耗能與耗材降到最低，長期而言協助企業做出永續決策。

AI技術在製造業者推動數位轉型過程中成為重要策略之一，應用場景大多以智慧監控為主，底下再細分出：能源管理(例如用電統計與KPI管理、電量預測與卸載控制、碳盤查與碳排放統計)、廠務節能(例如空調系統、空壓系統節能優化、廢水處理效能優化)、預防保養(例如轉動設備剩餘壽命預測、冰機設備異常診斷)、製程優化(例如製程配方模擬優化、產品製程異常監測)等四項管理類。

謝宗震表示，傳統開發流程，從資料採集、整合，分析建模、AI模型導入，過程漫長且難以擴展，且需要組織內良好跨域溝通合作，透過no code工具思維的AI解決方案，降低AI模型開發門檻及團隊溝通成本，也加速模型複製與更新，標準化AI模型建置，完善模型與產品生命週期管理。

電子科技

詠鋐智能AI平台 企業決策助力

運用智造實務經驗 研發Tukey軟體 精準偵測、預警設備狀態 提升產線效能

【台北訊】Chimes AI（詠鋐智能）於2020年12月成立，致力於打造No-Code（無程式碼）人工智慧建置與管理平台，透過數據剖析、行爲預測以及流程自動化，協助企業自建AI應用，以達到量產規模化的效益。

創辦人謝宗震博士表示，Tukey軟體是詠鋐智能基於智慧製造實務經驗所研發的AI建模與管理平台，是可讓使用者不需具備技術背景或撰寫程式碼，就能打造出特定應用的解決方案。

傳統的AI導入過程非常漫長，在No-Code AI軟體的驅動下，可讓產業在發展過程中，得到更加精準的預測，以利市場提前布局，不僅所需的時間與成本更低，其擴展性也較大。利用圖像化介面、點擊、拖拉的方式，取代過去輸入程式碼才能做出軟體的方式，讓非IT人員也能成爲開發者。

其系統可提前偵測設備性能異常預警、原料產品供需評估、穩定劣化、趨近故障等狀態，提供參數操作建議或異常偵測通知，在第一時間協助企業做出最佳決策，大幅降低產線無預警停機所產生的廢品、環境與工安等風險。

ESG是近年企業關注的重點，代表Environmental（環境）、Social（社會）、Governance（公司治理）。詠鋐智能運用AI技術軟體實現企業在ESG的各種可落地場景，如在能源管理方面，可追蹤統計之後進行節能、省電、減少廢棄物水處理、監測設備運轉是否異常及產品品質，解決財務績效、客戶信任、關懷環境與社會等企業關心的議題。

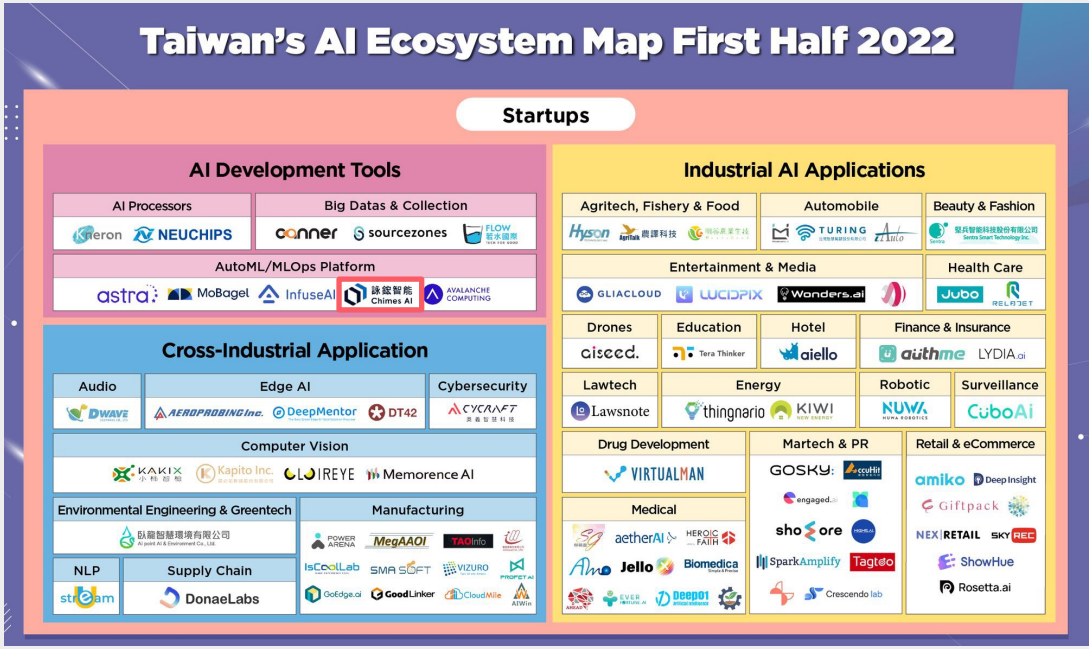
詠鋐智能運用AI工具爲企業有效提升人均生產力，降低失敗風險，讓AI系統算正融入製造業的生產環境，爲產線工程師解決問題，從而提升產線效能，務實踏上企業永續發展之路。

詠鋐智能公司電話（02）7755-7750。

（陳瓊美）

詠鋐智能創辦人謝宗震是清華大學統計博士，參與台灣人工智慧學校等相關組織積極推廣AI，也熱中公益。

陳瓊美／攝影



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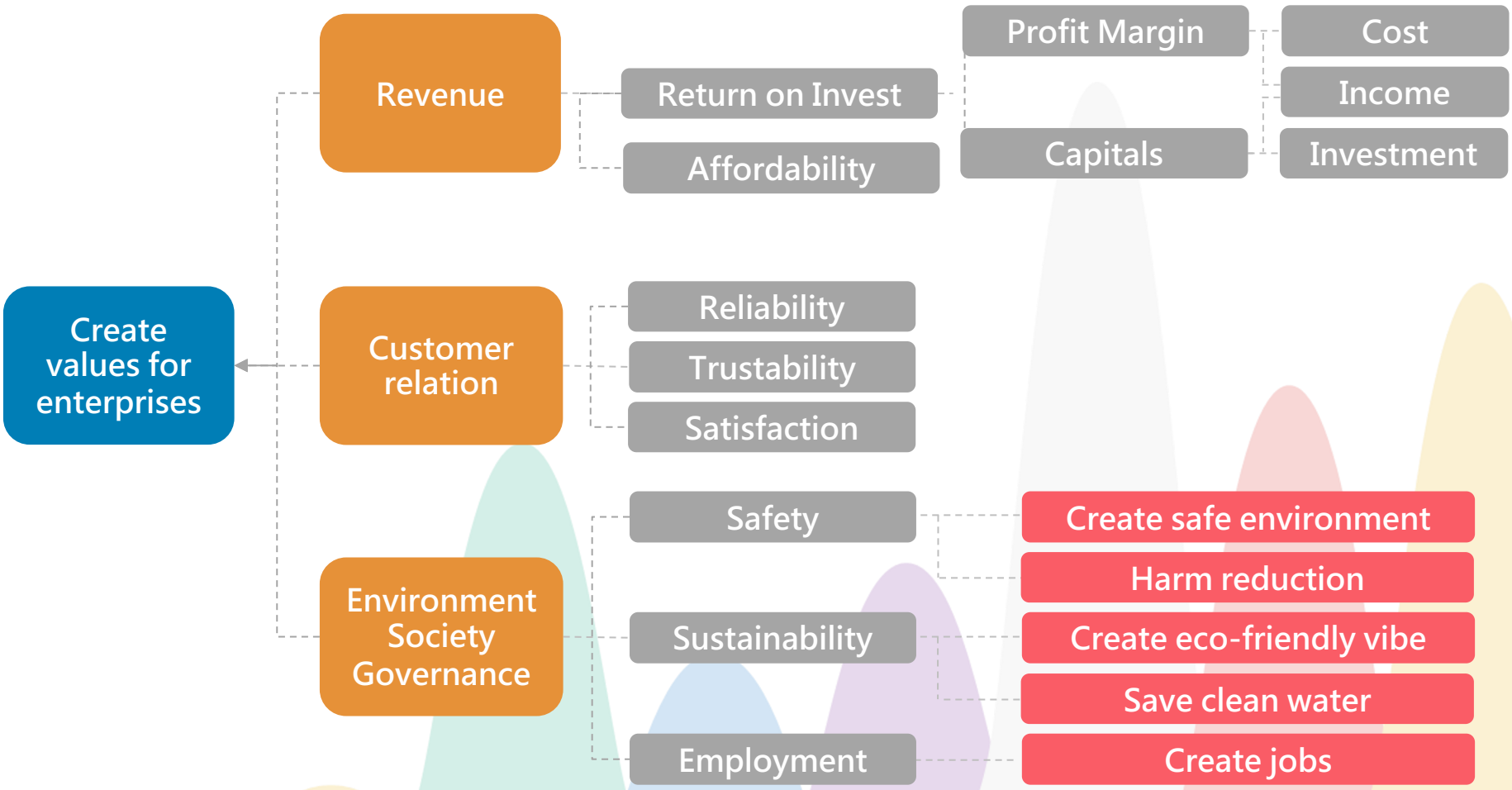
Changing the world starts from enterprises



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Case study

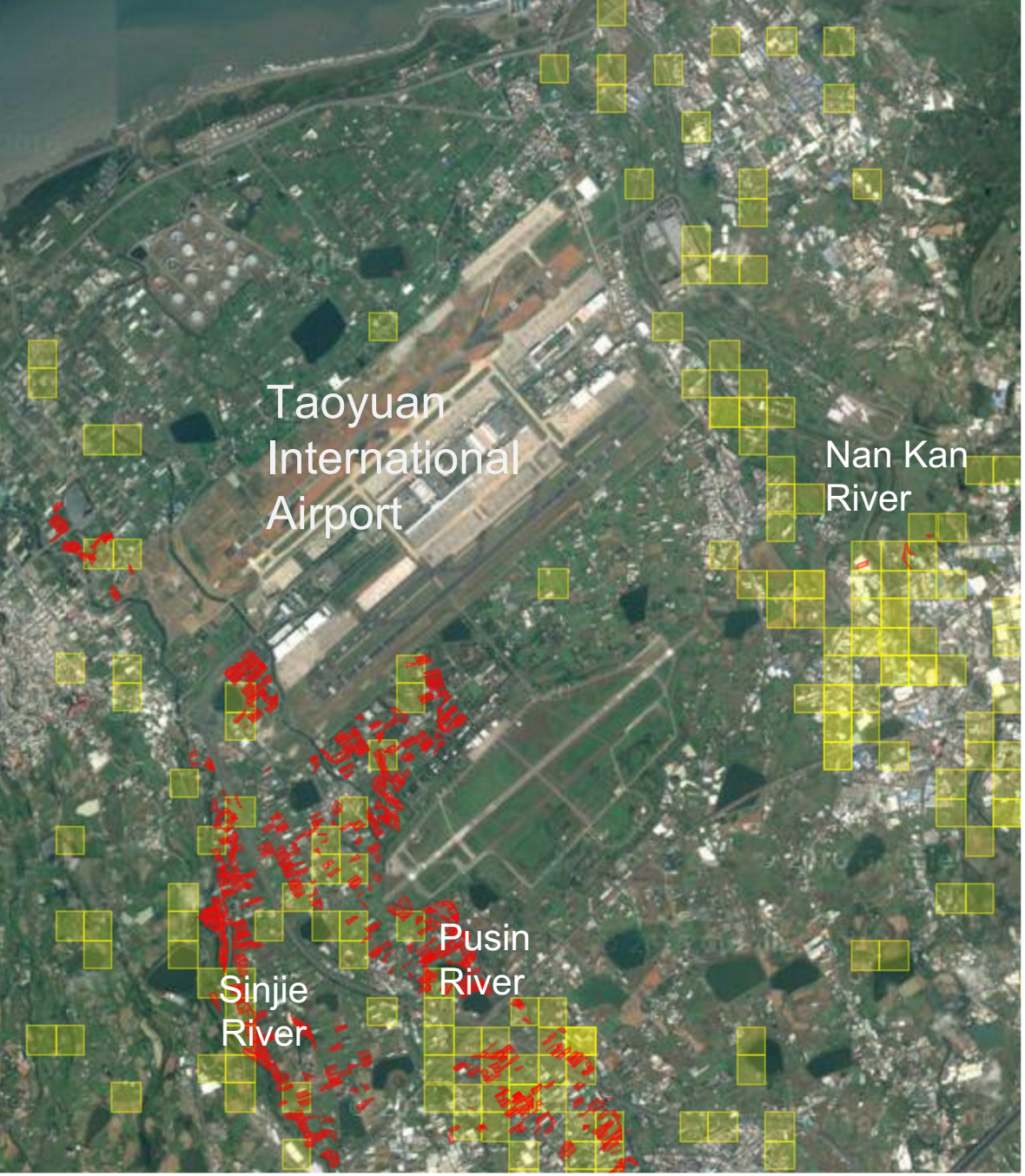
From Environmental-friendly Society to Build Business Competitiveness

"Farm contaminated by toxic metals, stop irrigating immediately."

Announced by government

Photo by 我們的島

Chimes AI, Inc. © 2022



Yellow Block：
Predicted heavy metal toxicity area

Red Dot：
Contaminated farmland watched by the EPA

- Predict toxicity areas cover almost all watched farmlands.
- There are more areas suggested for EPA to investigate the contamination hazards.
- source by D4SG Fellowship

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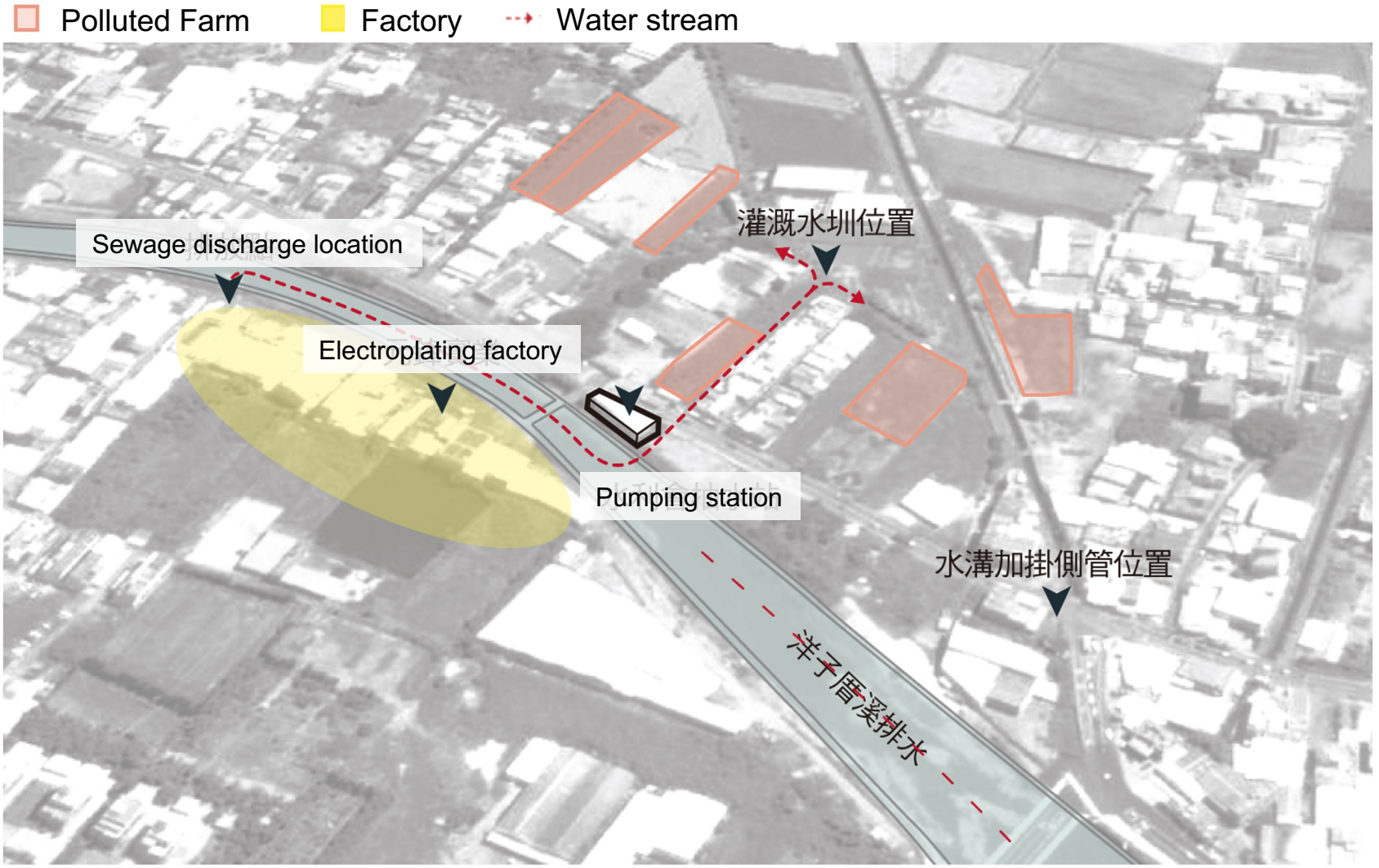
Severe water pollution - case study in Chang Hua



繪圖/鄭寧寧

Alongside the river, many factories released waste water, with saturated toxic metals to the river. This adds up to the consequence of polluted farm, grain and your rice. We have to help our food, farm and society by changing the factory.

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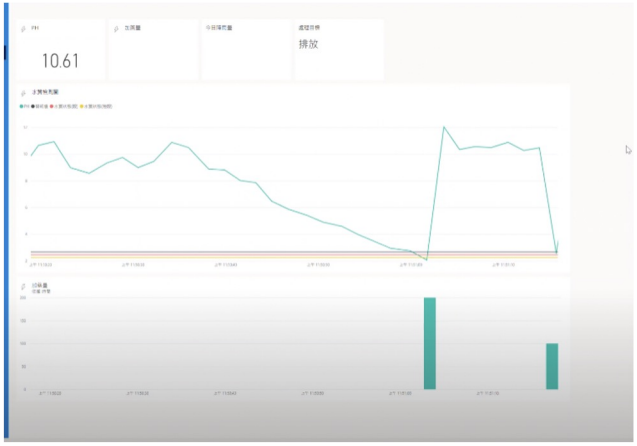
Sewage treatment x AI dosing

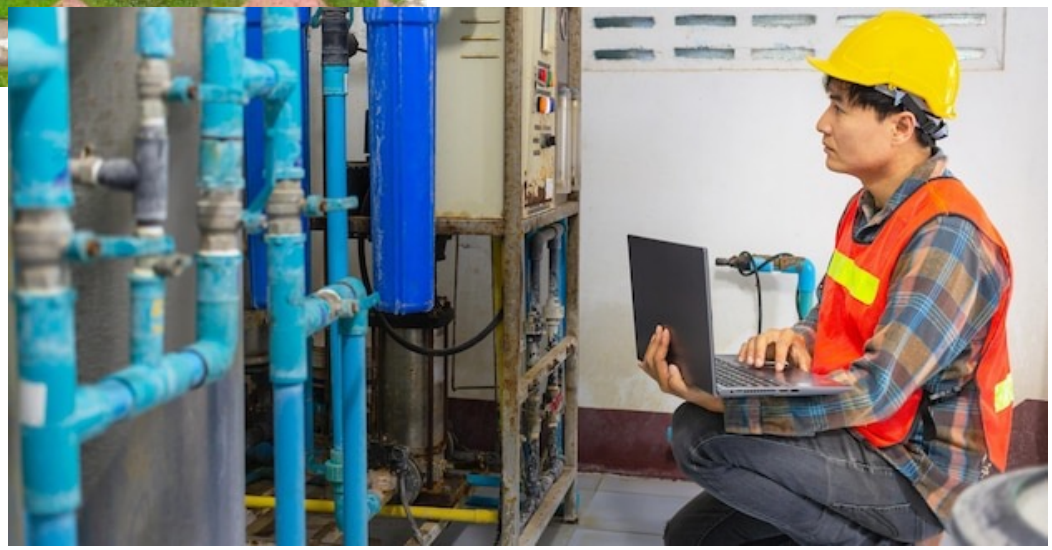
Eliminate breakdown

95%

Reduce Dose

30%





Power by AIPoints, Photo by freepik

Chimes AI, Inc. © 2022

AI Dyeing - Save water, save energy and save money

Improve Yield	Enhance Production
8%	18%

Photo by freepik

Chimes AI, Inc. © 2022

Case study

From safety to sustainable development

Outbreak of fire in Kaohsiung

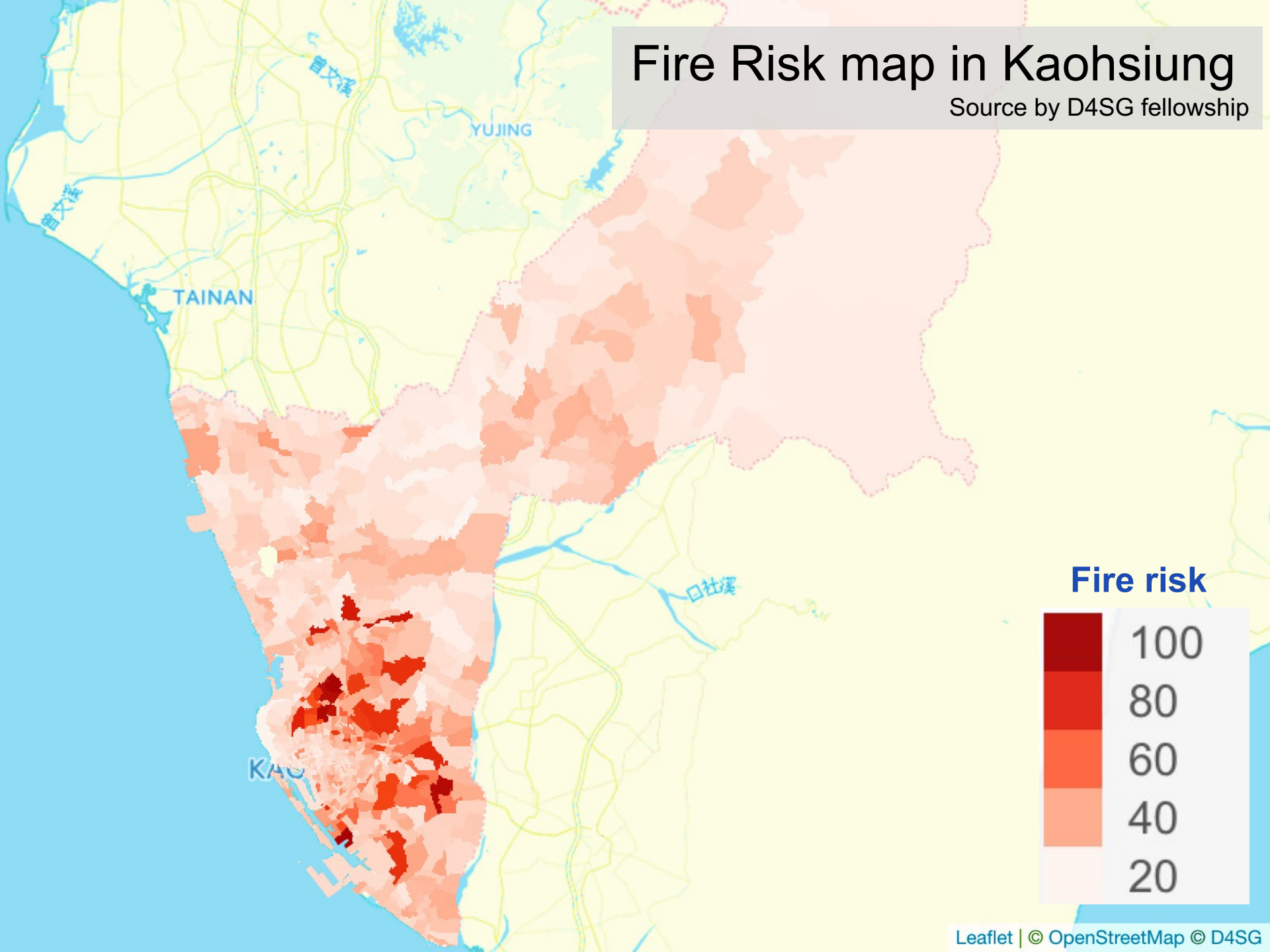
2016-08-21 09:36 聯合報 記者黃宣翰／即時報導

Photo by UDN

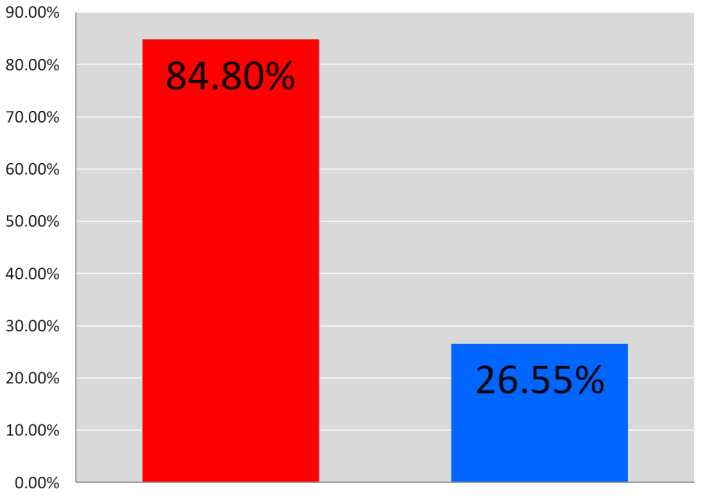
Chimes AI, Inc. © 2022

Fire Risk map in Kaohsiung

Source by D4SG fellowship

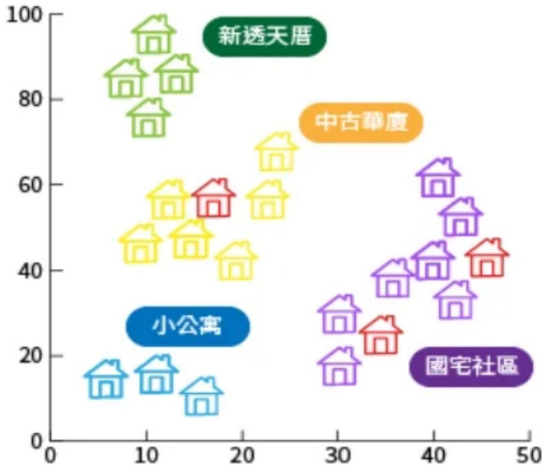


AI saves life



Domestic violence reduction

House area



House age

Chimes AI, Inc. © 2022

How about keeping people safe at work?

Photo by Jim Adler & Associates

Chimes AI, Inc. © 2022

World's **Top ten** petrochemical company

$70B+ annual revenue

110,000+ employs

Select Chimes AI **to**

reduce unplanned downtime

Chimes AI, Inc. © 2022

Predictive maintenance system to reduce downtime

Reduce Maintenance Costs	Elimination breakdown	Enhance Production
25%	87%	18%

Photo by freepik and wiki

Chimes AI, Inc. © 2022

Healthiness Monitoring for Green-power Devices

Ahead Maintenance Plan

3 months

Increase Power generation

12%

Photo by freepik

Chimes AI, Inc. © 2022

How we achieve that?

Exemplary cases alone are NOT enough.
Need to unleash the following...

- Price matters
- Lack of skilled talent
- Difficulty in hiring
- Black box problem
- Lack of commitment
- Infrastructure challenge

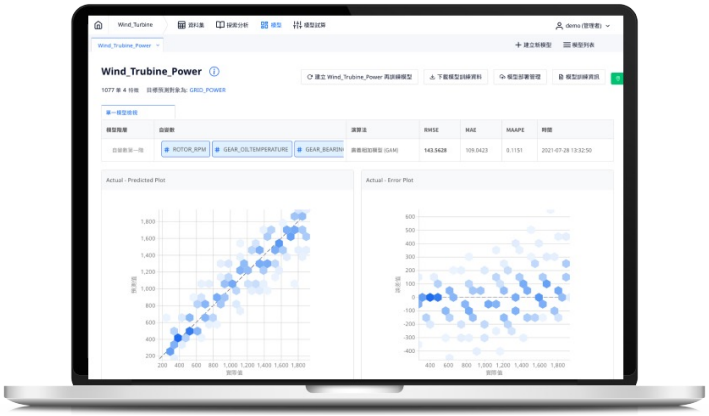
Chimes AI, Inc. © 2022

Easy-to-use tools for self-realization. Project value in days not months.

Honor

Awarded by
APAC CIO Outlook

Top No-Code Solution in APAC 2022

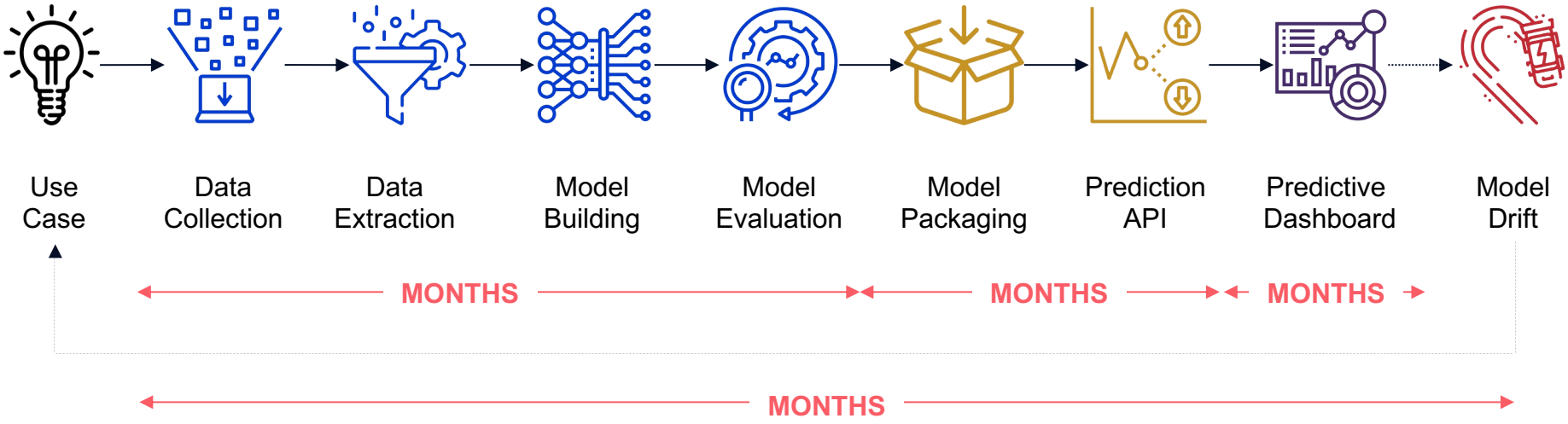


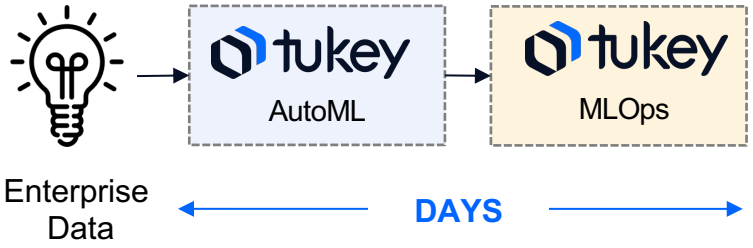
tukey

- Code-free Platform
- Simple Data Cleansing
- Fast and Easy AI deployment
- Continuous update

Chimes AI, Inc. © 2022

tukey powered by sustainability, efficiency and democracy





- ✓ Project value in days not months
- ✓ Focus on impact, not technology

Chimes AI, Inc. © 2022

tukey trusted by Forbes Global 2000

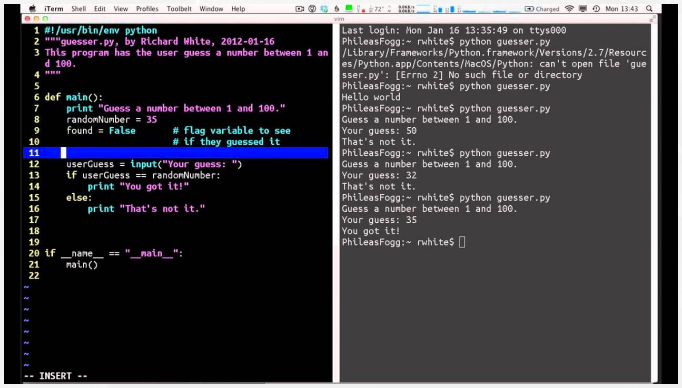
Efficiency, Democracy and Sustainability

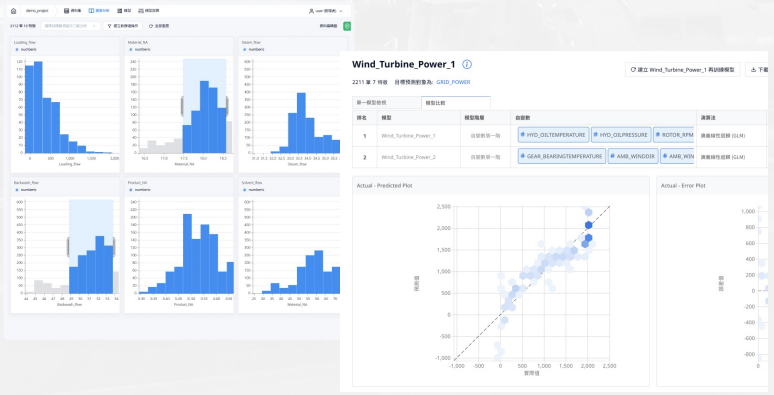
AS-IS

Built by core agencies with AI experts
Implement to one factory
AI model for a core equipment
Spent 6 months for 1 model
Developed by Python 3.6
Model drift after 6 months

TO-BE

Built by **15 on-site workers** with no AI skills
Implement to **40 factories**
AI models for **400+ equipment**
Spent 3 months for **400+ model**
Developed by **Tukey** AI engine
Provided **model re-train feature**





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Our ultimate goal is ...

We only have one Earth.

Chimes AI is making AI accessible to everyone in the ESG movement.

johnson@chimes.ai
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+886 2-7755-7750 #101

Photo by freepik

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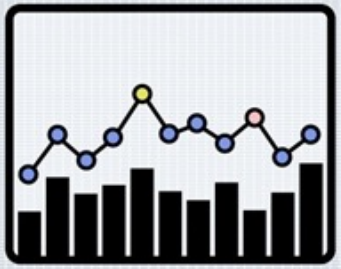
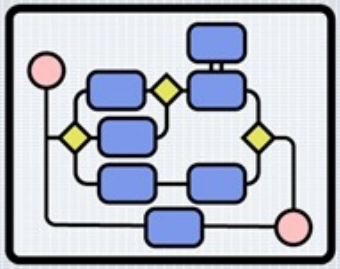


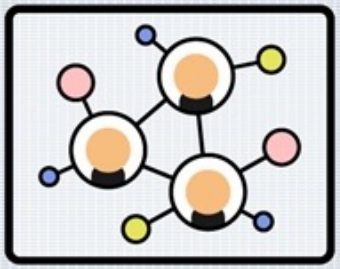


D4SG

資料英雄計畫✦成果分享

7.23 SAT. 14:00-16:00

國立臺北教育大學



資料治理保護社工安全（臺北市家庭暴力暨性侵害防治中心）
服務設計、循證治理

文字探勘分析歷史文件（不當黨產處理委員會）
自然語言處理、數位敘事

自然語言處理改變案件處理流程（內政部合作及人民團體司籌備處）
自然語言處理、案件樣態分析

機場出入境海關人員排班最佳化（內政部移民署）
作業研究、資源配置優化

立即報名