

人工智慧系統檢測中心 協助企業加速引進 AI

文／陳添福 資工系教授、連慶 資科工所碩士生

陳添福教授深耕台灣嵌入式系統產業多年，目前擔任台灣人工智慧晶片聯盟 AI 系統軟體召集人，因深刻了解到台灣 IC 設計與系統開發在這波 AI 浪潮中具有極大的優勢，台灣亟需 AI 系統化實現方案。為促進 AI 智慧系統產業發展，提升國內人工智慧系統產業的技術層次與產品品質，協助產業界能夠充分發揮其優勢並提高產品競爭力，陳教授成立「人工智慧系統檢測中心」(AI System Benchmarking and Tuning Lab)，推動具系統思維之人工智慧系統效能調校與安全檢測相關研究。

人工智慧系統檢測中心成立初衷在提供一個公正、專業、客觀的人工智慧效能檢測與調校服務及推動相關研究，希望能夠透過本中心的服務與研究能夠成為廠商在開發人工智慧系統產品時成為一大助力。國內擁有系統化且公正的評測服務組織對於產業加速與品質提昇是至關重要，唯有透過專業且嚴謹的測試流程才能準確且精準的找到產品弱項，也就能夠提供產業有效且有意義資訊，讓廠商有更明確的產品提昇計畫。中心為能與世界接軌亦積極參與人工智慧效能相關國際標準推行與制定，目前中心參與 MLPerf 中針對邊緣設備評測的工作小組，透過了解現階段國際對於相關人工智慧效能評估方向與指標，我們能夠不斷修正我們的評測準則讓我們能夠提供具有國

際認可的評測結果，強化測試評比報告的權威性。

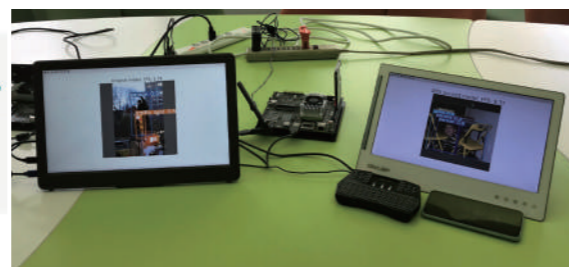
中心另方面的服務項目亦包括：提供 AI 模型與應用系統開發、AI 效能優化、AI 系統規劃與效能調校服務。中心發展相關研究，過去已有些許成果，協助產業界在面對 AI 落地化問題時能夠有快速且系統化的解決方案，中心也積極培養人工智慧系統技術研發人才。目前中心更積極以 AI 系統核心技術耕耘智慧製造領域的技術與工具開發，協助產業克服數位轉型所面對的挑戰，支援企業相關部門 AI 開發，加速公司 AI 場域落地的實現。

目前中心應用我們相關技術在產業中進行實質合作，與產業界交流中獲得許多的回饋，從這些回饋當，依業界實際情形不斷的修正及研發我們的技術，使我們所提供的技術與服務都不只存在於理論層面，而是真正夠解決產業界問題。希望未來能夠協助台灣產業未來在人工智慧領域能夠更加速的發展。詳細資訊請參閱公開網站：

AI System Benchmarking and Tuning Lab
(NeuralScope.org)

AI 手機量測：www.neuralscope.org/mobile

AI 開發板量測：www.neuralscope.org/devboard



AI System Benchmarking and Tuning Lab: Accelerate the Pervasive Applications on Artificial Intelligence Technology among Industries

Professor Tien-Fu Chen, currently serving as a chairperson of AI system software in AI on Chip Taiwan Alliance, has been dedicated to Embedded System Industries in Taiwan for many years. It is foreseeable that Taiwan's IC design and system development will have great opportunities in the coming wave of AI, thus an AI systemization Implementation solution is needed desperately. In order to accelerate the growth of AI intelligent system Industries, improve technologies and product qualities of AI System Industries in Taiwan, as well as assist industries to maximize their technical advantages and enlarge the competitiveness of products, Professor Chen founded "AI System Benchmarking and Tuning Lab" to push up the researches of artificial intelligence system performance tuning and safety detection from architecture perspective.

The core value of AI System benchmarking and Tuning Lab is to provide a fair, professional, and objective AI System Benchmarking and Tuning service as well as to promote related research. We hoped that the services and researches of our lab would be a great help to manufacturers during the development of artificial intelligence system products. The existence of a systematic and fair Benchmarking service organization domestically is essential for industry acceleration and quality improvement. The professional and rigorous testing processes our lab provides can accurately recognize weak points of products, and thus provide industries effective and meaningful information, which will assist manufacturers to compile product improvement plans more precisely. In order to comply with the world, our lab proactively participates in the implementation and formulation of international standards for artificial intelligence performance. Lately, our lab joins in the working group of MLPerf for end-to-end device evaluation. Due to realizing the current international performance benchmark for artificial intelligence, we keep revising our benchmark criteria

to provide worldwide recognized evaluation results and strengthen the credibility of the evaluation reports.

Other service items provided by our lab include AI model and application development, performance optimization, AI system planning and benchmark tuning services. With the related research, our lab has achieved some results in the past, helping industry get effective and systematic solutions regarding the issues of AI implementation, while actively cultivating AI system research and development talents. Our lab focuses lately on developing technologies and tools in smart manufacturing fields with AI system core technology, assisting industries in overcoming the challenges by digital transformation, supporting AI development of relevant departments of enterprises, and accelerating the adoption of AI solutions into different scenarios.

Our lab carries out substantial cooperation in the industry using our relevant technology, and receives many feedbacks from it at present. According to these feedbacks and the application scenarios of the industry, we constantly enhance and develop our technologies so that the technologies and services we offer do not only work at the theoretical level, but also solve problems in the industry. I hope our lab can help Taiwan's industries to speed up the development in the AI field. For more information, please refer to the public website:

AI System Benchmarking and Tuning Lab
(NeuralScope.org)

AI mobile benchmark: www.neuralscope.org/mobile

AI development board benchmark: www.neuralscope.org/devboard