

# 大马AI推手 吴炳炜 连接 科技与时代

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出生于槟城的数学天才吴炳炜, 曾是马来西亚50大富豪之一

吴炳炜

-银湖素宇(Silverake Axis)创办人兼执行主席

-大马人工智能(AI Malaysia)主席

-马来西亚中华总商会科技及创新咨询委员会顾问

-马来西亚留日同学会 (JAGAM)顾问

人工智能正以前所未有的速度重塑世界。国际上有“AI三巨头” 奠基理论体系,马来西亚则有 吴炳炜博士等先行者推动本土AI发展。作为大马人工智能主席,他正致力于将马来西亚打造为 区域 AI 创新重镇。

从全球到本地,人工智能的发展正迈入新纪元。自深度学习突破以来,AI不再只是科技热词,而是影响产业、教育与国家战略的关键力量。

2012年无疑是人工智能发展史上的关键转折点。吴炳炜指出。

那一年,被誉为“人工智能教父”的杰弗里·辛顿(Geoffrey Hinton)率领团队推出AlexNet,在ImageNet 图像识别竞赛中横空出世,一举夺冠,震撼全球学界。这一突破不仅正式拉开了深度学习时代的序幕,也奠定了辛顿在AI领域无可撼动的传奇地位。

杰弗里·辛顿 通过 模拟人脑神经元, 构建出神经网络体系, 彻底革新了人工智能的研究范式, 也被誉为 Open AI 思想的源头人物。 2024年,辛顿 因在智能模拟领域的开创性贡献荣获“诺贝尔物理学奖”。

这一奖项的颁发,也标志着人工智能在科学研究中的地位,被提升至前所未有的重要高度。

作为马来西亚人工智能的能要推动者,大马人工智能(AI Malaysia)主席吴炳炜博士,以独到而生动的方式,将AI学术界比作中国传统武术的三大门派:武当、少林与峨眉。

在他的幽默诠释下,“武当派”代表辛顿,倡导以反向传播(Backpropagation)为核心的神经网络训

练法, 讲究深度架构与内在结构之美; “少林派” 则由 Richard Sutton 领衔, 他是强化学习领域的权威人物, 强调试错机制、策略优化与实战训练; 而 “峨眉派” 则是 Yoshua Bengio 的天下, 主张以概率建模方式处理复杂问题, 讲究优雅算法逻辑与建模的尺度平衡。

” 这三位并称为 AI 三巨头, 现代 AI 的发展几乎都源自他们奠定的学术根基, 脱离这三大门派, 很难称得上真正的 AI。”

放眼马来西亚, AI 生态系统正在悄然成形, 初具规模, 逐渐发展出本地化的理论、平台与领军人物。当前, AI 界主要由国家人工智能办公室 (NAIO) 与大马人工智能 (AI Malaysia) 两大组织推动, 而吴炳炜博士正是后者的主席, 也是我国最早一批投身 AI 研究的先行者之一。

谈到应用层面, 吴炳炜指出, 马斯克堪称 AI 商业化的标杆人物。他用 AI 技术催生了自动驾驶、火箭控制、脑机接口等一系列突破性产品。但他也时常强调, AI 虽可助力商业, 却无法应用于国家治理。

AI 可辅助人类进行分析与决策, 但在伦理、政治与文化的复杂性面前, 仍需保留人类的判断力。”

至于 OpenAI 的核心理念, 则在于将世界 “浓缩” 为模型: 以语言为边界、逻辑为框架, 从数据中生成新的知识结构。这种 “无中生有” 的能力, 是 AI 最令人惊叹之处。而从 “0 到 1” 的过程, 正是人工智能领域最困难也最具革命性的跨越。

“0 是发现, 1 是定义与生成。”

吴炳炜也用一个形象化的比喻来诠释 “1” 的含义:

“什么是 1? 就像用保鲜膜把一个苹果包起来, 放进微波炉加热后收缩成统一体, 那就是 1。”

放眼马来西亚, AI 生态系统正在悄然成形, 初具规模, 逐渐发展出本地化的理论、平台领军人物。

他强调, 马来西亚 AI 的未来希望正聚焦于拉曼大学 (UTAR), 目前, 大马人工智能正与拉曼大学展开深度合作, 致力于打造涵盖人才培养、模型研发、技术孵化与产业落地的完整 AI 生态体系。

“可以说, 马来西亚 AI 的下一个重要跃进, 极可能就在拉曼大学孕育诞生。”

### 想象力强化数学理解与应用

该集团创办人监执行主席吴炳炜近日受访时表示, 未来世界将由人工智能主导, 没有人工智能, 数学也将变得难以理解。

作为数学奇才, 吴炳炜对数学提出了独到见解: 尽管数学看似复杂深奥, 其本质其实很简单——它是一种想象, 他回忆, 自己小时候酷爱武侠小说, 天马行空的性格

促使他常沉浸于幻想之中，虽然想象力与现实之间存在距离，但正是这种跳脱框架的能力，孕育了无限可能。

“数学虽远离现实，却最接近想象，天马行空或许会让人迷失、懒散，但它的好处在于——一切皆有可能。”

在他看来，想象力不仅不会削弱数学思维，反而能强化其理解与应用。吴炳炜以美中贸易战为例指出：像这类复杂议题，无论从逻辑或哲学角度切入，都难有绝对答案。唯有借助想象与思维的延伸，世界才能不断前行。

谈及全球经济体系的演变，他指出，自1945年确立的金本位制度虽然限制重重，却有助于维持财政纪律。”没有金本位，就没有真正意义上的钱”。”他认为，真正的转折点始于越战——这场缺乏经济回报的战争严重掏空了美国财政。

“资本主义虽然在意识形态上击败了共产主义，但在经济层面，它并未兑现应有的回报。”吴炳炜指出。1971年尼克松终结金本位，改行法定货币” (fiat currency), 是全球金融秩序的一次深刻转折。“印钱，其实就是向下一代借债。”他说，商业世界本就充满不确定性，借贷与管险是其基本逻辑，“没有风险，就没有成长。”

他回顾，美国曾以资本与创新成就科技奇迹——从飞机到微波炉，但今日许多经济困境，往往根源于政治误判。”越战一役，把一切搞得乱七八糟。金本位被抛弃，经济靠印钱维持，走入了纸上富贵的时代。”

不过他也指出，万事皆有两面。金本位的瓦解虽催生货币泛滥与债务激增，却也推动了全球意识形态的深层转变，他回忆，中学时代毛泽东语录是唯一真理，社会高度统一，看似安定，其实抹杀了思想自由，是用同质化换来的表面和谐。如今，从统一走向多元，正是一场深刻的认知革命与价值重构。

1990年苏联解体，而中国则早在1987年由邓小平推动改革开放，迈向务实路线。那句“黑猫白猫，能捉老鼠就是好猫”，标志着中国走向市场经济的转折。表面上这是共产主义体制的调整，但在吴炳炜看来，背后更是资本主义逻辑的渗透：连共产主义者也在运用资本主义的方法达成目标。

这与他对数学的理解如出一源。他认为，学习数学的第一课，就是理解”没有绝对”，即使是最严密的系统，也难以避免自我矛盾，正如哥德尔不完备定理所揭示：一个系统无法自证其完备性。“人生亦如是——没有绝对的正确。也没有永恒不变的真理。”

吴炳炜总结道，执着于完美，往往只会陷入执念；而真正的智慧，是在矛盾中找出前行方向，在变化中理解世界的本质，

## Malaysian AI Promoter Goh Peng Ooi Connects Technology and The Times

Goh Peng Ooi, a mathematical genius born in Penang, was once one of the top 50 richest people in Malaysia.

Goh Peng Ooi

-Founder and Executive Chairman of Silverake Axis

-Chairman of AI Malaysia

-Advisor of the Technology and Innovation Advisory Committee of the Malaysian Chinese Chamber of Commerce

-Advisor of the Japanese Alumni Association of Malaysia (JAGAM)

Artificial Intelligence is reshaping the world at an unprecedented speed. Internationally, there are the "AI Big Three" who have laid the foundation for the theoretical system, and in Malaysia, there are pioneers such as Dr. Goh Peng Ooi who have promoted the development of local AI. As the Chairman of AI Malaysia, he is committed to making Malaysia a regional AI innovation center.

From the global to the local, the development of artificial intelligence is entering a new era. Since the breakthrough of deep learning, AI is no longer just a technology buzzword, but a key force that affects industry, education and national strategy.

2012 is undoubtedly a key turning point in the history of artificial intelligence development. Goh Peng Ooi pointed out. That year, Geoffrey Hinton, known as the "godfather of artificial intelligence," led his team to launch AlexNet, which won the ImageNet image recognition competition and shocked the global academic community. This breakthrough not only officially kicked off the era of deep learning, but also established Hinton's unshakable legendary status in the field of AI.

Geoffrey Hinton built an artificial neural network system by simulating human brain neurons, which completely revolutionized the research paradigm of artificial intelligence. He is also known as the source of Open AI thought. In 2024,

Hinton won the "Nobel Prize in Physics" for his pioneering contribution in the field of intelligent simulation. The award also marks that the status of artificial intelligence in scientific research has been elevated to an unprecedented level of importance.

As a major promoter of artificial intelligence in Malaysia, Dr. Goh Peng Ooi, Chairman of the Malaysian Artificial Intelligence (AI Malaysia), compared the AI academic community to the three major schools of traditional Chinese martial arts in a unique and vivid way: Wudang, Shaolin and Emei.

Under his humorous interpretation, the "Wudang Clan" represents Hinton, advocating a neural network training method based on backpropagation, emphasizing the beauty of deep architecture and internal structure; the "Shaolin Clan" The AI school is led by Richard Sutton, an authority in the field of reinforcement learning, who emphasizes trial-and-error mechanisms, strategy optimization, and practical training; while the "Emei School" is dominated by Yoshua Bengio, who advocates the use of probabilistic modeling to deal with complex problems, and pays attention to the balance between elegant algorithmic logic and modeling scale.

"These three are collectively known as the three giants of AI. The development of modern AI almost all stems from the academic foundation they laid. It is difficult to be called true AI without these three schools."

Looking at Malaysia, the AI ecosystem is quietly taking shape, taking shape, and gradually developing localized theories, platforms, and leaders. At present, the AI community is mainly driven by two major organizations, the National Artificial Intelligence Office (NAIO) and Malaysia Artificial Intelligence (AI Malaysia), and Dr. Goh Peng Ooi is the chairman of the latter and one of the earliest pioneers in the country to engage in AI research.

Speaking of the application level, Goh Peng Ooi pointed out that Eoin Musk is a benchmark for the commercialization of AI. He used AI technology to give birth to a series of breakthrough products such as autonomous driving, rocket control, and brain-computer interface. But he also often emphasized that although AI can help business, it cannot be applied to national governance.

AI can assist humans in analysis and decision-making, but in the face of ethical, political and cultural complexities, human judgment must still be retained. "

As for the core concept of Open AI, it is to "condense" the world into a model: using language as the boundary and logic as the framework to generate new knowledge structures from data. This ability to "create something out of nothing" is the most amazing thing about AI. And the process from "0 to 1" is the most difficult and revolutionary leap in the field of artificial intelligence.

"0 is discovery, 1 is definition and generation."

Goh Peng Ooi also used a figurative metaphor to interpret the meaning of "1":

"What is 1? Just like wrapping an apple with plastic wrap, putting it in a microwave and shrinking it into a unified body, that is 1. "

Looking at Malaysia, the AI ecosystem is quietly taking shape, taking shape, and gradually developing localized theories and platform leaders.

He emphasized that the future hope of AI in Malaysia is focusing on the University of Malaya (UTAR). At present, AI Malaysia is working in depth with UTAR, committed to building a complete A ecosystem covering talent training, model development, technology incubation and industry implementation.

"It can be said that the next important leap forward in Malaysia's AI is likely to be born in UTAR."

## **Imagination strengthens mathematical understanding and application**

The Silverlake Group's founder and executive chairman Goh Peng Ooi said in an interview recently that the future world will be dominated by artificial intelligence. Without artificial intelligence, mathematics will become difficult to understand.

As a mathematical genius, Goh Peng Ooi has put forward unique insights into mathematics: Although mathematics seems complex and profound, its essence is actually very simple - it is a kind of imagination. He recalled that when he was a child, he loved martial arts novels and unrestrained personality. This often makes him indulge in fantasy. Although there is a distance between imagination and reality, it is this ability to break away from the framework that breeds infinite possibilities. "Although mathematics is far away from reality, it is closest to imagination. Wild imagination may make people lost and lazy, but its advantage is that everything is possible." In his view, imagination will not only not weaken mathematical

thinking, but will strengthen its understanding and application. Goh Peng Ooi pointed out that such complex issues, whether from a logical or philosophical perspective, are difficult to have an absolute answer. Only with the help of imagination and the extension of thinking can the world continue to move forward. Talking about the evolution of the global economic system, he pointed out that the gold standard system established in 1945, although it has many restrictions, it helps maintain fiscal discipline. "Without the gold standard, there is no real money." He believes that the real turning point began with the Vietnam War—this war without economic returns seriously hollowed out the US fiscal reform. "Although capitalism defeated communism ideologically, it did not deliver the rewards it deserved at the economic level." Goh Peng Ooi pointed out that Nixon's ending of the gold standard in 1971 and the adoption of fiat currency was a profound turning point in the global financial order. "Printing money is actually borrowing from the next generation." He said that the business world is full of uncertainty, and Borrowing and risk management are its basic logic. "Without risk, there is no growth." He recalled that the United States had achieved technological miracles with capital and innovation—from airplanes to microwave ovens, but many economic difficulties today are often rooted in political misjudgments. "The Vietnam War messed everything up. The gold standard was abandoned, and the economy was maintained by printing money, entering an era of paper wealth." However, he also pointed out that everything has two sides. Although the collapse of the gold standard has led to currency flooding and debt surges, it has also promoted a deep transformation of global ideology.

He recalled that in middle school, Mao Zedong's quotations were the only truth, and society was highly unified and seemingly stable, but in fact it obliterated freedom of thought and was superficial harmony in exchange for homogeneity. Today, the transition from unity to diversity is a profound cognitive revolution and value reconstruction. The Soviet Union collapsed in 1990, while China had already taken a pragmatic approach in 1987 when Deng Xiaoping promoted reform and opening up. The phrase "A cat whether white or black that can catch mice is a good cat" marks China's transition to a market economy. On the surface, this is an adjustment of the communist system, but in Goh Peng Ooi's view, it is the infiltration of capitalist logic: even communists are using capitalist methods to achieve their goals.

This is the same as his understanding of mathematics. He believes that the first lesson in learning mathematics is to understand that "there is no absolute". Even the most rigorous system cannot avoid self-contradiction, as revealed by Gödel's incompleteness theorem: a system cannot prove its own completeness. "Life is the same - there is no absolute right. There is no eternal truth."

Goh Peng Ooi concluded that obsession with perfection often only leads to obsession; and true wisdom is to find the direction of progress in contradictions, understand the essence of the world in change, and understand the essence of the world in change.