



## **WMI and NTU Singapore launch industry-wide Anti-Money Laundering (AML) prototype model utilizing Artificial Intelligence and Machine Learning**

5 August 2021

Combatting money laundering is compounded in a digital age as perpetrators employ increasingly sophisticated ways to misuse the financial system and launder illegal proceeds. With the increase in transaction volumes and data, the tasks of detecting anomalous transactions and financial crimes indicia are even more challenging. It is therefore imperative to develop the necessary defence systems and ever more sophisticated tools to detect money laundering activities

The Wealth Management Institute (WMI) in collaboration with Nanyang Technological University Singapore (NTU Singapore), UBS and leading financial institutions in Singapore, embarked on a research project to develop new capabilities utilising artificial intelligence (AI) and machine learning to improve detection of money laundering.

The research focused on the use of artificial intelligence and machine learning to augment the capability of existing systems and human intelligence, ascertain patterns in data and complex transactions to enable financial institutions to better detect unusual money flows and transactions that may be signs of money laundering.

It also showcased the use of secure privacy preserving architecture where underlying data stays with individual banks while data models are extracted, enabling cross-bank AML analytics and intelligence. The deployment of such technologies with powerful data analytics capabilities can help provide financial crime teams across financial institutions the technological tools necessary to widen their surveillance.

**Ms Foo Mee Har, CEO of WMI** said, “The financial sector has made much progress to deepen AML competencies and to strengthen understanding of emerging AML risks and typologies. To stay ahead of the criminals, our research project has shown that collaborative efforts amongst industry players and public-private sector engagement leveraging artificial intelligence and machine learning technologies, can significantly enhance our collective fight against money laundering.

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The research project team expresses deepest gratitude for the support provided by the Artificial Intelligence and Data Analytics (AIDA) scheme, which provides funding support to strengthen the AIDA ecosystem in the Singapore financial sector. The AIDA scheme is part of the Financial Sector Technology and Innovation (FSTI) scheme under the Financial Sector Development Fund administered by the Monetary Authority of Singapore (MAS). We also thank UBS for their contribution and provision of seed funding which provided the critical resources to develop the research and helped the research project team to achieve its targeted outcomes."

**NTU's Senior Vice President (Research) Professor Lam Khin Yong**, said: "The research partnership between WMI, NTU, UBS, along with leading Singapore financial institutions, is another example of the University's strong links with the private sector. With its globally renowned strength in AI, Machine Learning and Data Science, NTU partnered with WMI to launch this important Anti-money Laundering (AML) initiative with industry to provide a safeguard for the public sector, specifically the financial industry. The collaboration also reflects the University's commitment to be at the epicentre of pioneering research, as part of the NTU 2025 strategic plan."

**Associate Professor Ng Wee Keong, from NTU's School of Computer Science and Engineering**, who led the research with WMI, said, "We have built the building blocks for an AI-based anti-money laundering system with a modular architecture that allows financial institutions to customize the building blocks for their compliance needs. This modular approach is critical to creating the client-centric, intelligent robo-AML system of the future when financial institutions will be taking an ex-ante approach towards AML compliance versus the current ex post approach."

**Mr Andrew Barker, APAC Head, Financial Crime Prevention Data & Innovation, UBS** shares that "UBS is delighted to have seeded the funding of this project through our close collaboration with WMI since 2017 to deepen AML competencies in the wealth management industry and to reinforce Singapore's status as a financial centre which adheres to the highest standards. The fruits of this research project are exceptionally useful contributions to the industry through the benefits of using AI and machine learning to improve transaction monitoring, which we are confident will help to combat financial crime for organisations that adopt this tool and screening methods."

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## **Wealth Management Institute (WMI)**

Established in 2003, the Wealth Management Institute (“WMI”) is Asia’s Centre of Excellence for wealth and asset management education and research. Founded by Temasek and GIC, WMI is driven by the vision to catalyse Singapore’s growth ambition to become a leading international wealth and asset management centre. We believe that advancing knowledge and capabilities can have a sustainable impact on value creation at an individual, institutional and national level.

WMI is appointed as Singapore’s Lead Training Provider for Private Banking by the Institute of Banking and Finance Singapore (“IBF”) and supported by the Monetary Authority of Singapore (“MAS”). WMI provides a comprehensive suite of practiced-based programmes from IBF accredited certification programmes, Graduate Diploma to Master of Science in Asset and Wealth Management in collaboration with Nanyang Technological University. In 2020, WMI enrolled 17,000 finance professionals from 150 leading financial institutions across 60 programmes.

For more information, visit [www.wmi.edu.sg](http://www.wmi.edu.sg)

## **Nanyang Technological University Singapore (NTU)**

A research-intensive public university, Nanyang Technological University, Singapore (NTU Singapore) has 33,000 undergraduate and postgraduate students in the Engineering, Business, Science, Humanities, Arts, & Social Sciences, and Graduate colleges. It also has a medical school, the Lee Kong Chian School of Medicine, established jointly with Imperial College London.

NTU is also home to world-renowned autonomous institutes – the National Institute of Education, S Rajaratnam School of International Studies, Earth Observatory of Singapore, and Singapore Centre for Environmental Life Sciences Engineering – and various leading research centres such as the Nanyang Environment & Water Research Institute (NEWRI) and Energy Research Institute @ NTU (ERI@N).

Ranked amongst the world’s top universities by QS, NTU has also been named the world’s top young university for the last seven years. The University’s main campus is frequently listed among the Top 15 most beautiful university campuses in the world and it has 57 Green Mark-certified (equivalent to LEED-certified) building projects, of which 95% are

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certified Green Mark Platinum. Apart from its main campus, NTU also has a campus in Singapore's healthcare district.

Under the NTU Smart Campus vision, the University harnesses the power of digital technology and tech-enabled solutions to support better learning and living experiences, the discovery of new knowledge, and the sustainability of resources.

For more information, visit [www.ntu.edu.sg](http://www.ntu.edu.sg)

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