FINANCIAL TECHNOLOGIES
金融科技

ASTRI stands at the forefront of this financial transformation, harnessing its expertise in AI, blockchain, cybersecurity, and data analytics to drive innovation and reinforce Hong Kong's position as a leading international financial hub.

憑藉穩健的監管框架、豐富的商業機遇、充足的資本支持以及優秀的人才庫，香港是發展金融科技的理想地點。應科院在人工智能、區塊鏈、網絡安全以及數據分析方面具備專業知識，積極以創新科技推動金融業轉型，進一步鞏固香港作為國際金融中心的領先地位。

FinTech is transforming financial services, making them faster, more secure, and highly reliable. Advanced technologies are empowering banks, insurers, and other financial institutions to better serve their customers, while enabling users to access financial products in a seamless and intuitive manner.

As a leading R&D organisation in Hong Kong, ASTRI develops cutting-edge financial technologies to address key industry challenges. Focusing on blockchain, cybersecurity, big data while providing proofs-of-concept and scalable innovations, ASTRI is driving the financial sector towards a new era of growth and innovation, supporting the city's vision of a technology-driven future.

金融科技正徹底改變金融服務，令它更快速、更安全且高度可靠。先進技術賦能銀行、保險公司及其他金融服務機構提升客戶服務水平，同時讓用戶能夠以簡易便捷的方式接觸各類金融產品。

作為香港其中一家領先的研發機構，應科院致力開發尖端金融科技，以應對行業挑戰。我們聚焦區塊鏈、網絡安全和大數據，透過提供概念驗證和可擴展的創新解決方案，推動金融業邁向增長和創新的時代，並支援香港實現以科技驅動未來的願景。
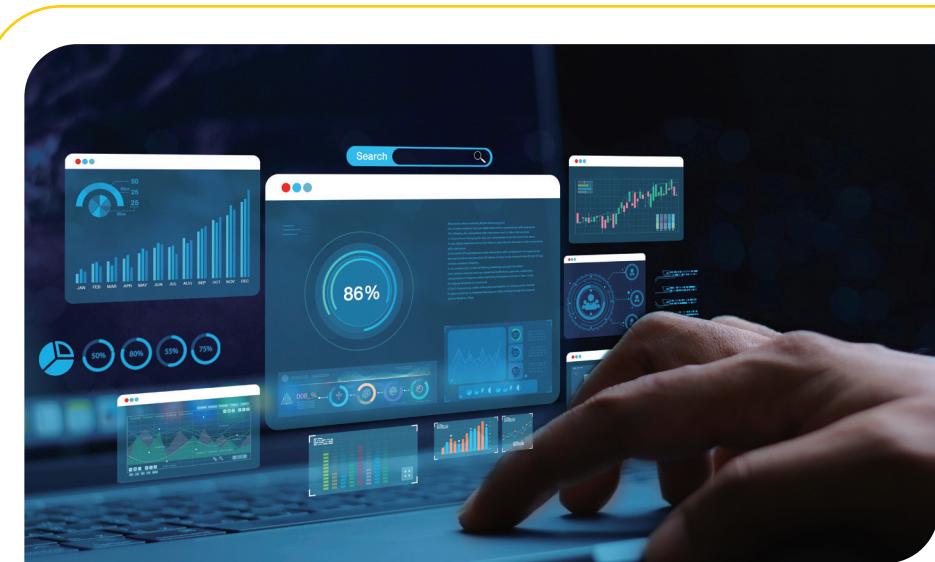
Research Areas & Focus
研 究 領 域 與 重 點

Cybersecurity
網絡安全

聯盟式學習
Federated Learning

大數據分析
Big Data Analytics

區塊鏈
Blockchain

AI

Artificial Intelligence
人工智能

深度學習
Deep Learning
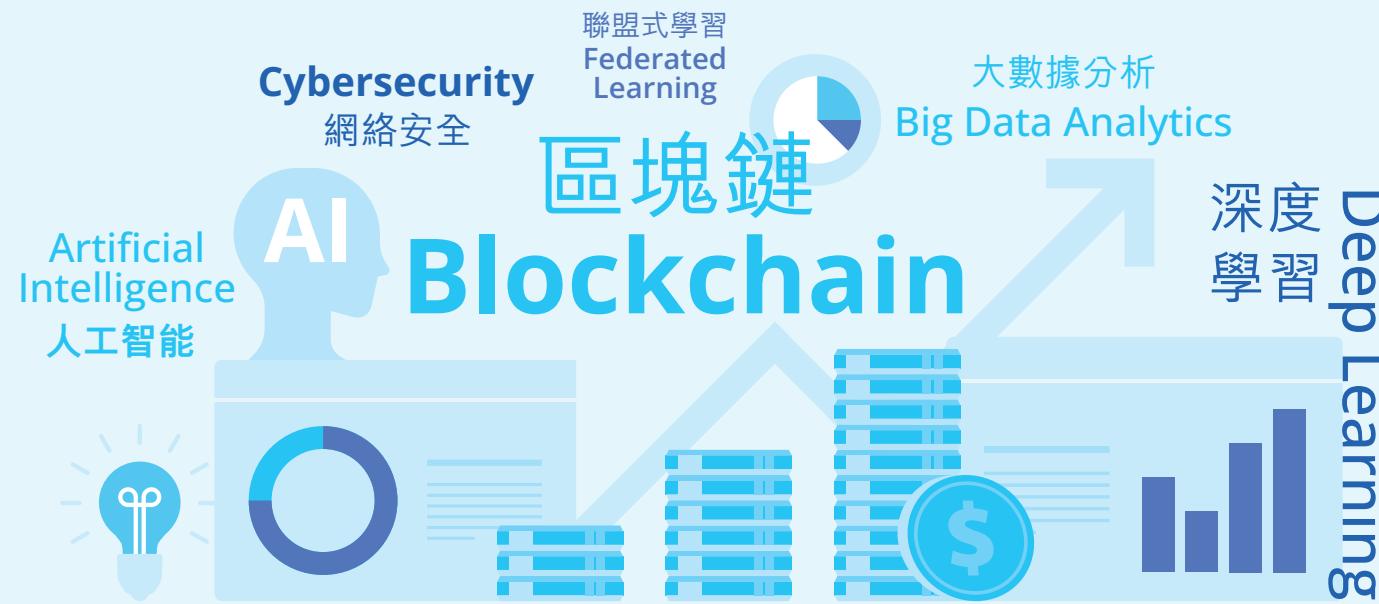
Technologies Breakthrough
技 術 突 破

In 2024/25, ASTRI demonstrated its commitment to technological excellence by developing several innovative solutions tailored to the financial industry. These advancements showcase how cutting-edge technologies can enhance efficiency, security, and operational effectiveness across various sectors.

於2024/25年度,應科院為金融業度身訂造多項創新解決方案,對科技卓越的追求有目共睹,亦展示了尖端科技如何提升各行各業的效率、安全性及營運效能。

AI Fraud Detection

ASTRI's specialised AI fraud detection technology represents a significant advancement in financial security, delivering measurable value to banking institutions whilst strengthening customer trust. The solution deploys sophisticated algorithms to scrutinise bank statements for fraudulent activity through multiple AI-driven image assessments, ensuring detection evasion is virtually impossible. Core features encompass AI-generated image detection, manipulated image inspection, relative layout scale comparison, and GREEN technology for cross-field validation. Compatible with statements from leading institutions, the technology detects inconsistencies and alterations with exceptional accuracy, enhancing transaction security and building confidence in digital banking services.

人工智能防欺詐偵測技術

應科院研發的專業人工智能防欺詐偵測技術,標誌着金融安全領域的重要突破,為銀行機構帶來實質價值,並顯著提升客戶信任度。此解決方案採用先進演算法,通過多層次人工智能圖像評估技術,深入審查銀行結單中的欺詐行為,確保欺騙行為無所遁形。核心功能涵蓋人工智能生成圖像偵測、篡改圖像偵測、相對版面比例比較,以及使用GREEN技術進行交叉驗證。此技術支援主要金融機構的月結單格式,能以極高準確度識別異常及篡改痕跡,有效強化交易安全,並增進客戶對數碼銀行服務的信心。

Semantic Matching for Loan document Review

ASTRI, in collaboration with a Hong Kong bank, has developed an AI-powered automated loan document review system that leverages advanced natural language processing and deep learning technologies. This system is designed to automatically extract and compare relevant content between the term sheet and the loan agreement to ensure semantic consistency. The system has been successfully deployed by the bank across various loan types, achieving an accuracy rate exceeding 90%. By significantly improving the speed of document review, it reduces operational risks, minimises human errors, and alleviates the workload of frontline staff.

貸款文件審查的語義比對

應科院與香港一家銀行合作,研發了一套人工智能銀行貸款文件自動審核系統。該系統採用先進的自然語言處理和深度學習技術,能夠自動提取相關內容,並與條款說明書與貸款協議作比對,以確保語義描述的一致性。該系統已成功在銀行應用,涵蓋多種貸款類型。系統準確率超過九成,顯著提升審核速度外,更大幅降低操作風險和人為錯誤,並減輕前線員工工作量。

These innovative solutions and collaborative partnerships demonstrate ASTRI's continued leadership in developing transformative technologies that solve critical industry challenges.

透過創新方案與協作夥伴關係,應科院持續引領變革科技的發展,解決業界挑戰。

Partnership and Commercialisation
合作夥伴及市場化項目

Network Visualisation Solution 網絡可視化解決方案	ASTRI designed and implemented a comprehensive data analytics system for the Hong Kong Monetary Authority. This system consolidates data from multiple sources to construct a corporate knowledge graph for supervisory purposes. Features include data ingestion, cleansing, text mining, entity resolution, graph analytics, and visualisation, all supported by thorough documentation and skill transfer.	應科院為香港金融管理局設計並推行一項全面數據分析系統，透過整合多來源數據構建企業知識圖譜，有助於監管工作。其主要功能包括數據擷取、清理、文本挖掘、實體解析、圖表分析及視覺化，並以詳細文檔及技能轉移作支援。
Cheque OCR (Optical Character Recognition) 支票光學字符識別技術	ASTRI partnered with a multinational bank to develop advanced recognition engines that streamline cheque processing operations. The trial software successfully recognises critical fields including payer and payee names, cheque amounts, dates and other magnetic ink character recognition (MICR) information across multiple languages—English, Traditional Chinese, and Simplified Chinese. This collaboration enhances cheque clearing efficiency and optimises operational workflows for the banking sector. The system continues to evolve through iterative updates that address processing errors and improve overall performance.	應科院與一家跨國銀行合作開發先進的識別引擎，以優化支票處理流程。試用軟件能成功識別不同欄目的英文、繁體中文及簡體中文資訊，包括付款人及收款人姓名、支票金額及日期，以及其他磁性墨水字符識別(MICR)資訊。此項合作提升了支票結算效率及銀行營運流程。系統將透過迭代更新修正錯誤並提升整體性能。
Software Supply Chain Vulnerability Identification Platform 軟件供應鏈漏洞識別平台	In collaboration with Sparkle In Technology Investment Limited, ASTRI developed a platform for identifying vulnerabilities in software supply chains. Using hybrid scanning mechanisms, including binary code dynamic scanning, the platform provides a robust solution to manage security risks across digital assets like servers, routers, and gateways.	應科院與耀通科技投資有限公司合作開發軟件供應鏈漏洞識別平台，以包括二進制動態掃描等混合掃描機制，為伺服器、路由器及閘道器等數碼資產帶來穩健的安全風險管理解決方案。

Project commenced in 2024/25*
2024/25年度開展的研發項目*

Fraud Detection using AI for Image-based Documents	基於人工智能的詐欺文件圖像檢測
A Programmable Automated Tabular-Data Generation method for Machine Learning	用於機器學習的可編程自動表格數據生成
LLM Access Shield against Data Leakage and Undesirable Response	用於防止資料洩露和不良回應的大語言模型訪問護盾
Valuation and Simulation for Trusted Data Exchanges	可信數據交易的評估和模擬

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* 創新及科技基金資助