China Mobile Hong Kong: Deep Integration of AI and Telecommunications Services

中國移動香港：AI 與通訊業務深度融合

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China Mobile Hong Kong (CMHK) has long been dedicated to incorporating artificial intelligence (AI) technology into its telecommunications services, providing enterprises with one-stop intelligent solutions through cloud network architecture, the Internet of Things (IoT), and big data, among other information and communication technologies (ICT).

中國移動香港（CMHK）多年來一直致力於將人工智能（AI）技術融入通訊業務，通過雲網架構、物聯網、大數據等多項信息通訊技術（ICT）為企業提供一站式智慧解決方案。

AI in Telecommunications: Intelligent Customer Service Systems

AI plays a crucial role in the telecommunications industry. Telecommunications companies can deploy applications (such as Deep Learning, Machine Learning, and Natural Language Processing) to uncover valuable insights, thereby optimizing network performance, enabling predictive maintenance, and offering intelligent customer service. CMHK's Customer Service Center has adopted the industry's first intelligent voice interaction customer service system, integrating the three core AI technologies mentioned and undergoing extensive localization adjustments to create the "AI Personal Assistant" successfully. This assistant provides various services, including answering customer calls, filtering fraudulent calls, acting as a secretary, and offering voicemail services. Additionally, the company provides "AI Intelligent Text Customer Service" and video customer service, which can directly identify customer intentions and quickly respond via text, currently supporting both Chinese and English, as well as Chinese and English mixed. All conversations are aggregated into the "AI Voice Analysis Platform" for analysis and processing, generating relevant insights to improve AI products continually.

AI 在通訊業務上的應用：智慧客服系統

AI 在通訊行業中的扮演著重要角色，營運商可透過部署相關應用（如深度學習 Deep Learning、機器學習 Machine Learning 和自然語言處理 Natural Language Processing）來發掘具有價值的資訊，從而優化網絡表現、實現預測性維護、以及提供智慧客戶服務。CMHK 客戶服務中心便採用了業內首個智慧語音交互客服系統，系統結合了三大核心 AI 技術，並進行了深度本地語系化調整，成功構建出「AI 私人助理」。該助理能夠提供多項服務，如客戶來電代接、防詐騙電話過濾、替代秘書服務及留言信箱服務等。此外，CMHK 還提供了「AI 智慧文本客服」和視頻客服，可以直接識別客戶意圖並迅速以文本回覆，目前支援中英文及其混合語言，而所有對話都會匯總到「AI 語音分析平台」進行分析和處理，生成相關的分析見解，有利於 AI 產品的持續改進。

Other Opportunities for AI in Telecommunications

Firstly, personalized marketing: AI can effectively analyze customer data to provide personalized content and recommendations, increasing customer engagement and conversion rates. Secondly, data analysis: AI can process vast quantities of data, enabling managers to effortlessly comprehend customer behavior and market trends, thus facilitating more informed decision-making. For example, AI can quickly analyze customer feedback and sentiment from social media and reviews, helping companies address issues promptly. Lastly, AI can automate repetitive and time-consuming tasks such as data entry, scheduling, and email marketing, freeing up employees' time to focus on more strategic and creative tasks.

Moreover, AI-driven telecommunications services positively impact society, particularly in education and healthcare. For instance, when remote education platforms incorporate AI for intelligent teaching, they can adjust content based on students' progress and needs, providing personalized learning experiences. In healthcare, AI can facilitate rapid diagnosis and combined with remote consultations, improve medical efficiency.

AI 在通訊行業中的其他機遇

首先是個性化營銷，AI 能精準分析客戶數據，提供個性化內容和建議，提高客戶黏貼度及轉化率。其次是數據分析，AI 可以分析大量數據，讓管理者輕易洞悉客戶行為和市場趨勢，制定更明智的決策。例如，AI 可以從社交媒體、評論等渠道迅速分析客戶意見和情緒，幫助企業及時解決問題。最後，AI 可自動化重複和耗時的任務，如數據輸入、日程安排和電郵營銷，以釋放員工時間，讓他們專注於更具戰略性和創造性的任務。

此外，由 AI 驅動的通訊服務在教育和醫療方面對整個社會產生積極影響。例如，當遠程教育平台結合 AI 進行智能教學後，便可根據學生的學習進度和需求調整教學內容，提供個性化的學習體驗。醫療方面，AI 可進行快速診斷，配合遠端診療可提高醫療效率。
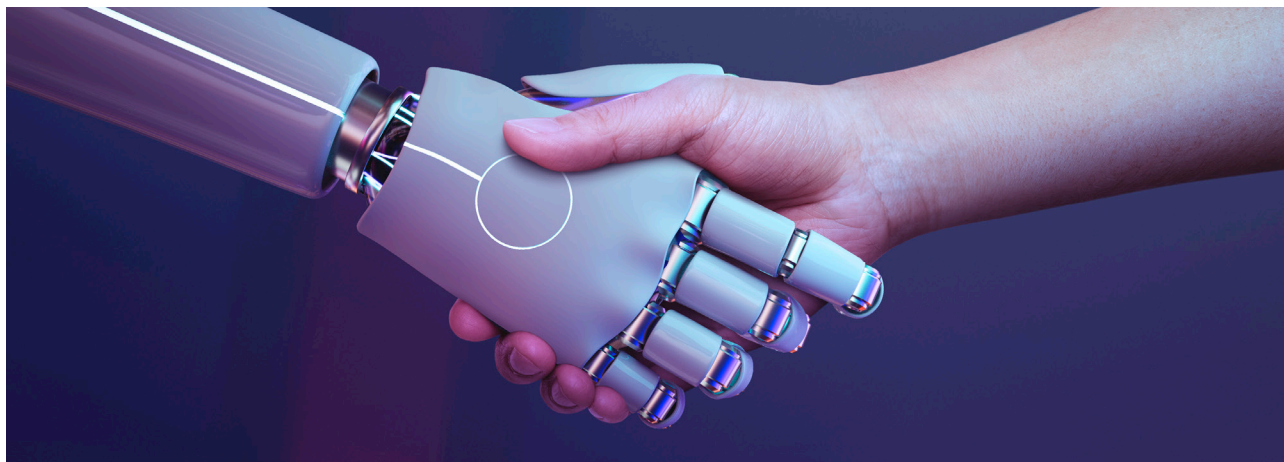
Challenges and Countermeasures for AI

Despite the numerous opportunities AI brings to the telecommunications sector, there are potential threats, particularly regarding privacy and security. According to a survey by the International Association of Privacy Professionals, 57% of consumers are concerned that AI poses a significant threat to their privacy. Although AI can significantly improve the efficiency of data processing and analysis for operators, careful attention must be given to data security and authorization management. For example, AI customer service systems may collect recordings of user interactions to analyze patterns and trends, inevitably involving some personal data. Companies need to properly manage sensitive information collected by AI, such as implementing appropriate deletion procedures to ensure user privacy is not compromised. CMHK is dedicated to implementing stringent measures to safeguard customer data privacy at every stage of personal data collection, usage, storage, security, and deletion. CMHK also regularly updates its privacy policies to ensure compliance with Hong Kong's Personal Data (Privacy) Ordinance.

Future Prospects: Deep Integration of AI and 6G

In the future, AI will be ubiquitous, but it will require robust cloud computing and reliable networks for support. AI computing power will be as accessible as electricity, available at the click of a button. The emerging AI PCs, capable of running AI on both the terminal side and the cloud, will revolutionize creativity and productivity in the future business world. It is anticipated that 6G will further enhance the deep integration of AI and networks, creating a symbiotic relationship. It is noteworthy that 6G will be at the core of the future telecommunications world, with the large-scale application of AI ultimately achieving faster, more accurate, and more reliable applications, driving industry development and enterprise innovation. As the world progresses toward 6G, it will become an innovative platform integrating AI, sensing, networking, and devices.

Conclusion

Leveraging the strong backing of its parent company, China Mobile, CMHK will stay at the forefront of AI development. At the recent World Artificial Intelligence Conference (WAIC 2024), China Mobile hosted an ecosystem forum themed "AI Empowerment, Creating the Future," focusing on three key initiatives: building new AI infrastructure, strengthening the development foundation; forging high-level AI general and specialized models, consolidating supply standards; and unleashing the value of data elements, facilitating AI+ development. CMHK will continue to lead in AI advancements, promoting industry integration and leveraging the innovative synergy between AI and network technologies.

AI 的挑戰與應對措施

儘管 AI 技術在通訊領域帶來了諸多機遇，但也存在一些潛在威脅，尤其是在隱私和安全方面。根據國際私隱專業人士協會的調查，57% 的消費者擔心 AI 對其私隱構成重大威脅。儘管 AI 可以幫助營運商更有效處理和分析大量數據，但在數據安全和授權管理方面務必多加小心。例如 AI 客服系統會收集用戶與客服的對話錄音，以分析其中的模式和趨勢，當中無可避免會涉及一些個人資料。企業需要妥善地管理 AI 收集的敏感資料，如採取合適的刪除操作，以確保用戶私隱不被洩露。CMHK 就承諾在個人數據的採集、使用、存儲、安全和刪除全過程中，採取嚴格的措施保護客戶數據隱私，並定期更新私隱政策以符合香港《個人資料 (私隱) 條例》的規範。

未來展望：6G 時代與 AI 深度融合

未來，AI 將會無處不在，但它需要強大的雲端運算與可靠的網絡在背後支撐，AI 運算力就像「電」一樣，人人均可「一點接入、即取即用」，事實上，現正興起的 AI PC，能在終端側和雲端同時運行 AI，終將革新未來商業世界的創造力和生產力。預期 6G 將更進一步有效把 AI 與網路的深度融合，兩者關係如魚得水。值得一提是，6G 將會是未來的通訊世界核心，AI 的規模化應用，最終實現更快、更準確、更可靠的應用，助力行業發展和企業創新，而世界正朝著向 6G 方向演進，6G 將是結合 AI、感知、網絡和設備等的創新平台。

結語

CMHK 憑藉其母公司中國移動的強大後盾，將緊貼 AI 發展步伐。中國移動在早前世界人工智能大會 (WAIC 2024) 中，便以「AI 賦能、創見未來」為主題舉辦生態論壇，重點推進三項工作：建設新型 AI 基礎設施，築牢發展基礎；鍛造高水準 AI 通專大模型，夯實供給水準；釋放數據要素價值，助力 AI+ 發展。CMHK 將繼續走在 AI 前線推動產業共融，發揮 AI 賦能網路及網路賦能 AI 的創新優勢。