AI Privacy White Paper of Huawei Consumer Business

Issue 1.0

Date 2019-08-30

Contents

1 Personal Data Management for AI Businesses

Mobile Internet is continuing to develop fervently. Mobile chips, which just a few years ago were limited in their processing capabilities, continue to become more powerful. Cloud computing services are also becoming more widespread, artificial intelligence (AI) algorithms are becoming more refined and mature, and data volumes are growing explosively. In turn, the AI industry is developing rapidly and becoming more prevalent. AI products and services provided by Huawei Consumer Business are developed based on Huawei Emotion User Interface (EMUI) system, integrating the basic capabilities of chips, mobile operating systems (OSs), cloud services, and big data analytics, as well as mature AI solution capabilities of third-party service providers. These AI products and services are oriented for users' daily life and work, delivering convenience and optimal user experience. In the AI era, both opportunities and challenges exist, with better products and services offered to users while risks to privacy protection. Huawei will always place consumers' personal data protection above commercial interests to ensure the security of personal data.

1.1 Personal Data Processing Principles

Huawei protects user privacy based on the Generally Accepted Privacy Principles (GAPP) and complies with the EU General Data Protection Regulation (GDPR) as well as the personal data protection laws and regulations of other countries. Basic principles for personal data processing are as follows:

Lawfulness, fairness and transparency: Personal data shall be processed lawfully, fairly and in a transparent manner in relation to the data subject.

Purpose limitation: Personal data shall be collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes.

Data minimization: Personal data shall be adequate, relevant and limited to what is necessary in relation to the purposes for which it is processed. Anonymization or pseudonymization shall be applied to personal data if possible to reduce the risks to the data subjects concerned.

Accuracy: Personal data shall be accurate and, where necessary, kept up to date. Every reasonable step must be taken to ensure that personal data that is inaccurate, having regard to the purposes for which it is processed, is erased or rectified without delay.

Storage limitation: Personal data shall be kept for no longer than is necessary for the purposes for which the personal data is processed.

Integrity and confidentiality: Personal data shall be processed in a manner that ensures appropriate security of the personal data, including protection against unauthorized or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organizational measures.

Accountability: Data controllers shall be responsible for and be able to demonstrate compliance with the principles outlined above.

In addition to the aforementioned basic principles for personal data processing, AI businesses shall also comply with the following principles for the collection and processing of personal data: device-side processing first, separation of personal identifiers from cloud data, and limited data processing by third parties.

1.2 AI Data Lifecycle Management

Huawei provides privacy and security management throughout the entire data lifecycle and provides specific protection policies based on the characteristics of data processing activities in each phase of the lifecycle.

Collect: Personal data shall be collected lawfully, fairly and in a transparent manner, and limited to what is necessary in relation to the purposes for which it is collected.

Transmit: Personal data shall be transmitted in a secure manner.

Store: Personal data shall be stored in a secure manner on devices or servers, and appropriate technical and organizational measures shall be implemented to secure stored personal data.

Use: The use purposes, processing methods, and retention periods of personal data shall be consistent with those specified in the privacy notice and as authorized by users. Security protection shall be provided to secure personal data against breach, theft, misuse, or abuse.

Disclose: In business scenarios where Huawei collaborates with third parties to provide AI services, suppliers and business partners authorized by Huawei to process personal data on Huawei's behalf shall be certified to ensure they provide appropriate measures to secure personal data processing. Suppliers and business partners shall be contractually required to provide the same level of data protection as Huawei. They shall process personal data only as stipulated in the contracts and as instructed by Huawei, not for any other purposes. If Huawei and an independent third party both process personal data, Huawei shall specify the rights and obligations of each party and the data processing regulations with which both parties must comply in a contract.

Destroy: When the retention period of a user's personal data expires, the data shall be deleted or anonymized, and the destroyed data cannot be restored.

2 AI Products and Services

Huawei provides an extensive range of AI products and services in the consumer market, aiming to deliver convenience along with ultimate experience for users during daily life and work. User privacy is extremely important to us and we take our responsibilities seriously. We collect and process only personal data necessary for users to use AI products or services. We process data preferentially on the users' devices. If we need to process data on our servers, we anonymize and encrypt the data before uploading it over a secure channel. Before any processing of personal data by a third party is performed, users will be notified and authorization obtained from them. Users can obtain details about the processing of personal data in the privacy statement of the specific product or service. We respect the rights of users to make informed choices, and users can enable or disable any function provided by Huawei AI products and services at any time.

2.1 HiVision

HiVision is a content recognition app provided by Huawei Consumer Business. It uses visual processing techniques to process images captured by mobile phone cameras, enabling users to scan to identify objects, products, food calories, barcodes & QR codes, and more.

When users use HiVision for the first time, HiVision will ask for the users' consent prior to collecting personal data necessary to provide services. HiVision will not collect or process personal data if users do not give consent or subsequently withdraw consent.

HiVision is integrated with professional service capabilities of third-party service providers and Huawei's AI capabilities to provide services to users. For example, HiVision classifies objects into different categories, such as pets, flowers, buildings, and famous paintings in implementing the object recognition function. After a user scans an object, HiVision will upload the picture to the Huawei cloud server and identify the category of the object in the picture. HiVision then sends the picture to the relevant third-party service provider's server, which then returns the identification result.

To provide HiVision services, Huawei needs to collect image information captured by the mobile phone camera. HiVision services are provided by Huawei in collaboration with third-party service providers, and therefore the data collected by Huawei will need to be sent to third-party service providers for processing. Huawei, however, will not send a user's mobile phone number, HUAWEI ID, device ID, or other data to the third parties. Therefore, the third parties will not be able to identify or locate the device or individual. In addition, if a third-party shopping platform needs to further use personal data for its own business purposes, Huawei will display the name and brand logo of this third party on the identification result page and provide links to the privacy policy and service terms of the third party. It is recommended that users read such information carefully.

2.2 HiVoice

HiVoice is a voice recognition app provided by Huawei Consumer Business to offer voice wake-up, making and answering calls, and other services to users by using technologies such as speech recognition, semantic interpretation, and natural language processing to identify, analyze and process users' voice.

Users need to voluntarily turn on voice service or use voice wake-up to enjoy HiVoice services. When users use HiVoice for the first time, HiVoice will ask users to give consent. If users do not give consent or subsequently withdraw consent, Huawei will not provide HiVoice services, nor will it collect and process users' voice data.

When HiVoice analyzes users' voice data, sensitive personal data is processed only on the device side. For example, when a user uses voice wake-up, the voiceprint data is encrypted and stored on the mobile phone, and will not be uploaded to Huawei Cloud or any third-party cloud. When the user wakes up the mobile phone using a voice command, HiVoice will match the input voice with the voiceprint stored on the mobile phone. When the user makes a call using a voice command, the voice command is processed only on the mobile phone. The voice command is not sent to Huawei.

2.3 HiTouch

HiTouch is a content recognition app provided by Huawei Consumer Business to identify the on-screen content when users touch the screen with two fingers. Huawei will not automatically obtain the pictures or text on the screen. Instead, HiTouch is started only when users voluntarily touch the screen with two fingers. When users use HiTouch for the first time, HiTouch will ask users to give consent. If users do not give consent or subsequently withdraw consent, Huawei will not provide HiTouch services, nor will it collect and process the pictures or text on the screen.

When a user uses HiTouch to identify a product on the screen, HiTouch will send the snapshot of the product and device ID to the third-party shopping platform. The third party then identifies similar products and returns links for shopping, allowing for one-click shopping. Huawei will display the name and brand logo of this third party on the identification result page and provide links to the privacy policy and service terms of the third party. Huawei will not store users' product search records or purchase records, nor will it push advertisements.
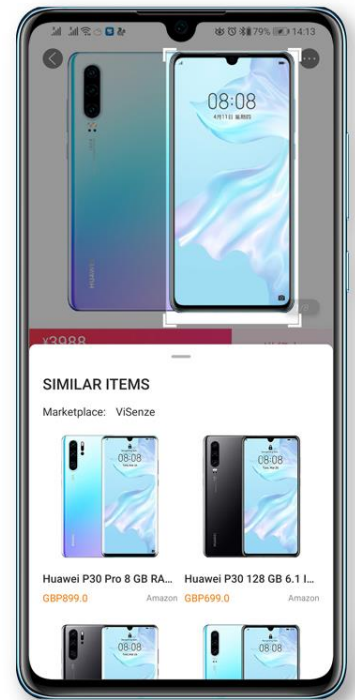
2.4 Huawei Assistant

Huawei Assistant is a mobile assistant app provided by Huawei Consumer Business. It provides entries to multiple services in a convenient manner, such as Instant access, SmartCare, news, and fitness data. When users use Huawei Assistant for the first time, Huawei Assistant will ask users to give consent. Huawei Assistant provides an independent switch for each sub-function. If a sub-function is disabled, Huawei Assistant will not collect or process the relevant personal data.

Huawei Assistant reads and processes data (such as travel cards, phone usage, data consumption, daily tasks, and fitness and health data) only on users' mobile phone. For example, if the Huawei Health app is installed, Huawei Assistant will synchronize and display data such as the step count, calories, and distance. This data is processed on users' mobile phone only, and will not be uploaded to any server.

Huawei collaborates with third-party service providers to provide some Huawei Assistant services. In delivering such services, Huawei Assistant provides the entry to service requests, and the third-party service providers provide specific services. For example, Huawei Assistant will connect to servers of third-party service providers that provide news content to deliver rich news content to users.

2.5 Face Recognition

Face recognition is a biometric recognition technology that identifies users based on facial characteristics. It is mainly used in face unlock scenarios.

Huawei mobile phones implement face-related processing, such as face image collection and feature extraction, comparison, and storage, in the Trusted Execution Environment (TEE) based on chip hardware isolation. The face recognition framework for Android devices is only responsible for facial authentication initiation and authentication result, and does not process face data. Third-party apps in Android devices cannot obtain face data or send the face data outside of users' mobile phone.

Face feature data is stored in the TEE secure storage. A built-in security chip is used to encrypt and decrypt face feature data and the encrypted key in the built-in security chip cannot be obtained externally, ensuring the security of face data.
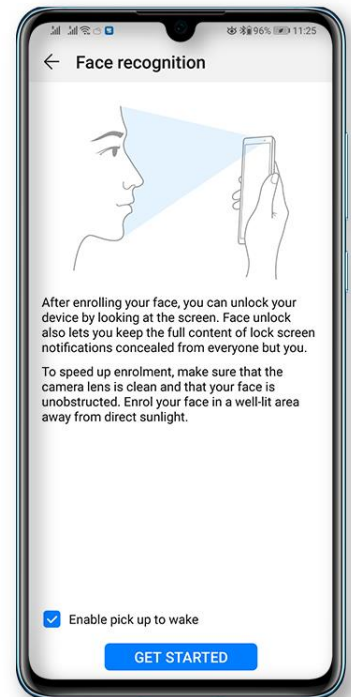
2.6 AI Camera

Huawei mobile phones provide an AI camera that uses preset camera algorithms to recognize specific scenes, for example, portrait, pet, food, blue sky, beach, and sunset scenes, and associate each scene with specific processing. For example, in portrait scenes, the mobile phone will provide beautifying and blurring effects and achieve intelligent image composition. Users can also disable scene recognition.

AI camera is subject to preset camera algorithms and training models. It will not collect any personal data, nor will it upload any personal data to the cloud server for processing purposes or share personal data with any third party. All data is processed on users' mobile phone.

3 Summary

Huawei attaches great importance to user privacy and security, and adopts the industry's most rigorous privacy protection standards and best practices to protect personal data in AI business scenarios, delivering secure and trustworthy AI services to users.

For details about Huawei Consumer Business Privacy Statement, go to https://consumer.huawei.com/en/privacy/privacy-policy/.