Numina Privacy Policy

Last Modified: January 24, 2019

Numina's system was designed from the start with privacy as a foremost concern, and we take every measure to prevent the use of our technology as a surveillance tool. We minimize the data we collect and transmit, and will never deliberately collect Personally Identifiable Information (PII). This policy outlines what information our system collects, how we use it, and the steps we have taken both in the system design and in our company practices to ensure we are respecting personal privacy in every possible way.

We may update this policy as our capabilities and processes evolve.

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Glossary

Edge processing: Computation performed on-site, onboard the Numina sensor.

Object data: Inferences about a particular object observed by a Numina sensor, including the object classification (e.g. pedestrian, bicyclist), location, and time of the observation.

Detection images: Images collected and processed by a sensor to extract object data.

Sample images: Images collected by a sensor and transmitted to the cloud for training and validation.

Personally Identifiable Information (PII): Features of a person or vehicle that allow their identity to be extracted by a human or machine with a high level of confidence.

Image de-identification: A process of removing any PII from an image that prevents a human or machine from extracting the identity of a person.

Web dashboard: Numina's password-protected web application where customers can view aggregate object data and insights for their sensors.

API: Application Programming Interface; Numina's API gives customers access to object data aggregates and insights for their own use.

Information We Collect

Numina's sensors collect **detection images** multiple times per second, and use **edge processing** to extract **object data** from the images in real-time. These images are not stored or sent to any other server, and the image is deleted from the sensor as soon as it has been processed. Object data extracted from the processed images are transmitted to the cloud and deleted from the sensor every 30 seconds.

Sensors also collect **sample images** for use in training and validation services. One sample image per hour is collected, at a random time within each 1-hour interval. This sample rate amounts to less than 0.02% of the total images collected and analyzed by the sensors. Occasionally (e.g. during a quality assurance investigation or a re-training period), this sampling frequency may be increased; however, this will only happen with explicit, advance authorization from our customer.

How We Use The Information

Object Data

We use the object data collected by our sensors to deliver aggregate statistics and insights to our customers. For example, customers can access historical object counts and location-based activity heatmaps for their sensors from our **web dashboard** or through our **API** via a secure login with end-to-end encryption. We may also prepare and deliver custom reports for our customers with more specific analysis and insights. Our engineers may also use object data for research and development purposes — for example, to train and test new models of activity or object interaction.

Sample Images

Sample images are put through an annotation process, in which authorized agents label objects and activities they observe in the sample images. This information is important for validating our system performance (quality assurance), and providing the data needed to improve and extend our system's capabilities — for example, by allowing us to train the computer vision algorithms on our sensors to recognize a new class of objects. The sample images are available to Numina employees and authorized contractors with a secure login that is only issued after they receive specific training in handling potential **PII**.

How We Protect The Information

Numina's sensors encrypt all communication with TLS1.2 using industry standard AES-256 encryption. Only authorized devices can communicate with sensors, and keys are carefully maintained and rotated frequently. This removes pathways for data interception or sensor access by unauthorized third parties. All of our data is stored in Amazon Web Services (AWS), and access is restricted to current Numina employees and contractors using AWS best practices for identity and access management.

Image De-identification

By design, our sample images are low-resolution (less than 1 pixel per cm) and of low image quality (JPEG Q=50). Even still, there is a chance that occasionally some PII may be visible in an image. To further minimize this possibility, images go through a process of **image de-identification** before they are made available to any service or agent. Currently, our image de-identification consists of blurring objects detected in the image. Image de-identification is an active area of research at Numina and will continuously improve as we develop more robust techniques.

How We Store The Information

Object data, and any aggregate statistics and insights derived from it, are stored in AWS as long as required by agreement with our customers, at a minimum. We may also retain anonymized data subsets indefinitely for R&D use. Sample images are stored in AWS for 30 days, unless a different retention period is explicitly agreed to with our customers.

Summary of Data Policies

This table shows a summary of the policies detailed above.

	Format	Example	Collection Frequency	Storage Location	Use	Access	Retention
Object Data	JSON Text	{"time": "2018-01-01T00:03:45.445445056Z", "box": "[143, 290, 179, 377]", "class": "pedestrian", "trackid": "a1ac09ddf08d0801290sd098sd" }	Two per second	AWS	Object movement data for the API, dashboard, and reports	Customer or designated third-parties via dashboard with valid login. Also accessible by Numina employees for quality control.	Indefinite
Sample Images	640×480 JPEG		One per hour	AWS	Algorithm quality control (accuracy validation) and improvement (model training)	Numina employees and authorized agents. Objects are de-identified before access.	30 days

Contact Us

If you have any questions about this policy, please email us at privacy@numina.co.