

Hikvision Uyghur Recognition, NVIDIA-Powered, Sold To PRC China Authorities

Published on Jul 25, 2023

Despite assurances for years that Hikvision has stopped minority analytics, just 7 months ago local PRC authorities awarded a \$6 million contract that explicitly requires Hikvision analytics to identify Uyghurs (), powered by NVIDIA hardware.

IPVM obtained and verified the 85-page contract disclosing this.

While the PRC has sharply restricted access to sensitive documents such as this one, this shows that persecution of Uyghur ethnic minorities is ongoing and that Hikvision, in what the authorities called its "standard configuration", can and does supply this human rights-abusing software.

While we shared this information with Hikvision 12 days ago and followed up two more times, Hikvision has not responded. NVIDIA says it is not "aware of any customer planning to provide NVIDIA" for this project, emphasizing these are "mass-market" products.

"Automated Racism": Uyghur Analytics Background

PRC police use racial video analytics to track Uyghurs and distinguish them from the PRC's Han ethnic majority, with The New York Times calling this "[a new era of automated racism](#)". Uyghur analytics are widespread across the PRC with IPVM [finding deployments in 12 different provinces](#) and Hikvision [listing a Uyghur-detecting camera in 2019](#).

Hikvision "Standard Configuration" With Uyghur Analytics

In an [85-page contract signed in December 2022 for a PRC security project](#) in

Hainan Province's Chengmai County, Hikvision's [DS-IF0100-AI Full Analysis Software](#) in its "Standard Configuration" is listed and includes the video analytic "Whether ethnic minority: unknown, non-minority, Uyghur" (:).

The relevant document pages are shown below with markups for the English translation of key terms:

PRC Authorities Require HIKVISION DS-1F0100-AI Featuring Uyghur Analytics **IPVM**

视频结构化分析	海康威视 DS-IF0100-AI (标配) 全分析治安 (人+车) 视频: 功能模块: 检测模块、跟踪模块、评分模块、属性分析模块、建模模块 (人体)
---------	--

Hikvision 76 Standard Configuration

海康威视 (标配)

分辨率: 720P~800W 像素, 标准 H. 264/H. 265
人体属性分析:
上衣颜色: 未知、红、黄、绿、青、蓝、紫、粉、棕、白、灰、黑、橙、混色
下衣颜色: 未知、红、黄、绿、青、蓝、紫、粉、棕、白、灰、黑、橙、混色
年龄段: 未知、少年、青年、中年、老年
性别: 未知、男、女
是否骑车: 未知、是、否
是否背包: 未知、是、否
是否戴眼镜: 未知、是、否
是否戴帽子: 未知、是、否
是否戴口罩: 未知、是、否
是否拎东西: 未知、是、否
上衣类型: 未知、短袖、长袖
下衣类型: 未知、短裤、长裤、裙子
发型: 未知、短发、长发
骑车人数: 未知、单人骑车、多人骑车
类型: 未知、自行车、摩托车、三轮车
方向: 上、下、左、右
大小: 大、中、小
目标速度: 快速、正常、慢速
是否少数民族: 未知、非少数民族、维吾尔族
车辆属性分析:
车牌号码
车牌类型: 未知、92 式民用、警车、上下军车、92 式武警车、左右军车、02 式个性化车、04 式新军车、黄色双行尾牌、使馆车、一行

Whether ethnic minority 是否少数民族 Uyghur 维吾尔族

This Hikvision AI software supports "facial analysis, video analysis, and human body analysis" [per a Hikvision datasheet](#). The [contract lists](#) over 20 types of traditional video analytics, such as glasses/hats/masks detection, along with the Uyghur analytics.

Contradicts Hikvision Claims About Minority Recognition "Removed"

This contradicts Hikvision's repeated claims to have "removed" minority recognition software in 2018, for example [telling The Guardian in 2022](#):

In 2018, a separate **recognition function produced by Hikvision**, which was not focused on any single ethnic group, **was removed** through a firmware update and is no longer available, as reported by The New York Times in 2019 [emphasis added]

Hikvision began publicly telling this to the media in 2020, as IPVM covered at the time: [Hikvision Admits Minority Recognition, Now Claims Canceled](#).

In 2019, [The New York Times reported](#) that Hikvision "offered a minority recognition function" but began "phasing it out" in 2018. IPVM first revealed [Hikvision touting minority analytics in 2018](#) and found Hikvision listing a camera [with Uyghur analytics in 2019](#).

Hikvision No Response

IPVM first reached out to Hikvision on July 13 about this contradiction, however, it has not responded, despite 2 follow-up emails since then.

Powered By NVIDIA T4 Cards

This Hikvision software (the DS-IF0100-AI) is powered by a Hikvision server (the DS-IF2008-A3H/NF) which requires "no less than 8 T4 cards" [per the PRC authorities' document](#):

IPVM		
(二)	解机中心	
2.1	服务器	
1	GPU 服务器	海康威视 DS-IF2008-A3H/NF: 2U 双路标准机架式服务器 CPU: 2 颗 CPU, 核数 ≥ 20 核, 频率 ≥ 2.4 GHz GPU: 不低于 8 张 T4 卡 内存: 不低于 256G DDR4, 24 根 DDR4 ECC RDIMM 插槽 硬盘: 标配 1 个 480GB SSD, 支持热插拔 网口: 4 个千兆自适应网口 其他接口: 4 个 USB 接口, 本地存储视频和离线视频支持不少于 700 倍加速解析

Tesla 4 (T4) cards are NVIDIA GPUs that provide "a computing platform that can accelerate the full diversity of modern AI", [NVIDIA says](#).

Hikvision recommends NVIDIA T4 cards for the DS-IF0100-AI software as well in an [official 2023 datasheet](#) which mentions T4 cards over a dozen times:

GPU Card	NVIDIA ® Tesla ® T4 recommended
----------	---------------------------------

In March 2023, IPVM investigated Hikvision [continuing to use and recommend NVIDIA](#), despite US sanctions banning NVIDIA from selling to Hikvision [since October 2019](#). NVIDIA told IPVM at the time it "can't control every future use or downstream sale of our products".

NVIDIA Response

NVIDIA says it has "no involvement" in the Hainan security project and is not "aware of any customer planning to provide NVIDIA" for it, but that it "will review any information provided" to ensure compliance:

We require and expect all customers to comply with all applicable export control rules. **We aren't aware of any customer planning to provide NVIDIA products or services for the identified project but will review any information provided to us to ensure our customers comply.** Given the large number of T4s available for resale after five years of availability, **we can't control used graphics cards**, which are general purpose mass-market products. [emphasis added]

NVIDIA also said it has not sold "T4 or any other products" to Hikvision since 2019 and that the T4 "is a five-year-old GPU sold mass market for many years, and we do not have visibility into resale of used versions."

UPDATE: IPVM asked NVIDIA if it would contact Hikvision and Hainan authorities about continuing to specify/recommend NVIDIA hardware. NVIDIA responded that "We don't have the ability to prohibit any third-party from referencing NVIDIA products in their marketing materials or design guides" and "we defer to the US government" on "policy questions".

Read NVIDIA's statement below:

We aren't participating in this project and aren't aware of any NVIDIA customer supplying it. Our customers are aware that they aren't allowed to ship products in violation of the law or our policies. However, we aren't able to control used GPUs that resurface on the secondary market, sold by parties that aren't our customers or partners. **We don't have the ability to prohibit any third-party from referencing NVIDIA products** in their marketing materials or design guides. **We defer to the U.S. government** to engage with foreign authorities on policy questions. [emphasis added]

Project Background: \$6 Million, 210 Hikvision Cameras

The Hainan Province security project is worth ~\$6 million and was signed in December 2022. It is requested by the Central Political and Legal Affairs Commission (CPLC), [which oversees](#) the PRC's judiciary and law enforcement. The integrator is [a subsidiary](#) of state-owned telco [China Unicom](#).

The contract mandates the installation of a wide variety of surveillance equipment, including 210 Hikvision cameras, plus drones, routers, camera poles, and more, within 3 months. Public documents found by IPVM for this project are technical and do not explain a motive/use case.

Hikvision Targeting Uyghurs Previously Admitted

Hikvision's own hired attorney [Pierre-Richard Prosper admitted](#) that Hikvision's police contracts in Xinjiang target Uyghurs, stating in a speech:

"You know, saying '**we wanted to monitor the Uyghur population**' by itself is... maybe [you] should say, 'well, wait a minute, **not the population as a whole**, but there's criminal elements" [emphasis added]

Listen to Prosper's remarks [here](#).

This PRC surveillance project shows Hikvision continuing to target Uyghurs, this time not in Xinjiang, but in Hainan Province at the far southern end of the PRC. IPVM reached out to Prosper as well asking for his comment, but he did not respond.