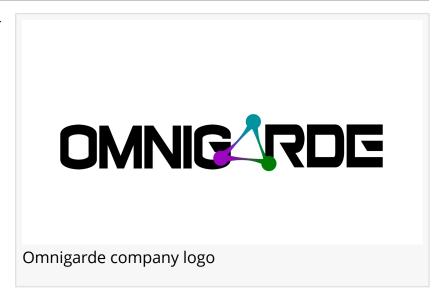# Title: Omnigarde Celebrates Breakthrough Performance in NIST Face Recognition Vendor Test (FRVT) 1:N Evaluation

Omnigarde new AI Software achieved top-1 and 2 positions among US-based companies and top-8 and 11 positions worldwide in NIST FRVT 1:N tests

MISSION VIEJO, CA, UNITED STATES, July 15, 2024 /EINPresswire.com/ -- Omnigarde, a prominent technology firm based in the United States, proudly announces the exceptional performance of its latest AI-powered 1:N face recognition software, Omnigarde-001, in the National

Omnigarde company logo

Institute of Standards and Technology (NIST) Face Recognition Vendor Test (FRVT) 1:N evaluation. This test assesses a software's ability to match a query face image against pre-enrolled face images, crucial for identification and investigation purposes across various scenarios. Therefore, the 1:N test is different from the NIST FRVT 1:1 verification test.

"

Our AI software success underscores our dedication to expanding the boundaries of face recognition capabilities, not only in verification but also in 1:N identification and investigation applications."

Dr. Peter Lo, Founder and CEO

Omnigarde-001, submitted for testing on June 25, 2024, has set new benchmarks, demonstrating significant advancements in both identification and investigation tests. According to results released on July 3, 2024, by NIST, Omnigarde-001 achieved top global rankings, securing positions as high as top-1 and top-2 among US-based companies and top-8 and top-11 worldwide across eight comprehensive test scenarios. Compared to its predecessor, Omnigarde-000, Omnigarde-001 showed remarkable improvement, reducing average error rates by 40.6% in identification and by 23.2% in investigation across the tested scenarios.

Dr. Peter Lo, Founder and CEO of Omnigarde, expressed pride in the company's ongoing

commitment to innovation in biometric identification technology, stating, "Omnigarde-001's success underscores our dedication to expanding the boundaries of face recognition capabilities, not only in verification but also in complex 1:N identification and investigation applications." As competition in the NIST FRVT tests intensifies, Omnigarde remains at the forefront of technological advancements, driving progress in face recognition software. The company's robust portfolio is increasingly esteemed for its accuracy and competitive pricing in the face recognition application market.

The NIST FRVT 1:N ongoing evaluation encompasses eight challenging test scenarios, such as searches involving mugshot images, surveillance footage, and border control records, reflecting real-world demands. Omnigarde-001 excelled in each scenario, achieving rankings of 11, 8, 13, 12, 11, 13, 8, and 13 in identification tests and 8, 6, 4, 10, 11, 24, 16, and 14 in investigation tests among all participating companies. As of July 3rd, 2024, the NIST FRVT has received 379 submissions from 142 companies worldwide since 2017. Detailed results, including Omnigarde's performance, are available on the NIST FRVT website.

Omnigarde LLC is a startup based in Southern California, with a strong focus on becoming a leader in biometric technologies through artificial intelligence (AI). The company was formed by a group of experts. Since its establishment on March 22, 2021, Omnigarde has made significant strides in developing cutting-edge biometric technologies, particularly in the areas of face, fingerprint, and voice recognition using AI. These technologies have achieved top-tier performance in renowned

Algorithm	Gallery / Probe / Date	Mugshot Mugshot N = 12000000	Mugshot Mugshot N = 1600000	Mugshot Webcam N = 1600000	Mugshot Profile 90° N = 1600000	Visa Border N = 1600000	Visa Kiosk N = 1600000	Border Border ΔT ≥ 10 YRS N = 1600000	Mugshot Mugshot ΔT ≥ 12 YRS N = 3000000
cloudwalk_mt_002	2023-02-24	0.0020(7)	0.0018(12)	0.0113(9)	0.0589(1)	0.0016(1)	0.0477(2)	0.0157(2)	0.0030(2)
nec_009	2023-12-21	0.0012(1)	0.0011(3)	0.0068(2)	0.0640(2)	0.0016(2)	0.0459(1)	0.0062(1)	0.0019(1)
megvii_004	2023-10-18	0.0015(4)	0.0012(7)	0.0081(5)	0.0703(3)	0.0019(3)	0.0564(4)	0.0167(3)	0.0053(4)
sensetime_009	2023-01-04	0.0013(3)	0.0010(1)	0.0065(1)	0.0823(5)	0.0021(4)	0.0741(22)	0.0227(4)	-
paravision_014	2023-06-08	0.0021(8)	0.0012(6)	0.0096(7)	0.4377(44)	0.0026(5)	0.0520(3)	0.0583(15)	0.0090(8)
idemia_010	2023-01-11	0.0012(2)	0.0010(2)	0.0075(3)	0.0931(7)	0.0028(6)	0.0581(7)	0.0366(5)	0.0034(3)
pgzsmartvisional_000	2024-03-15	0.0019(8)	0.0011(5)	0.0090(6)	0.0859(6)	0.0032(7)	0.0566(5)	0.0568(14)	0.0081(6)
kakao_002	2023-11-07	0.0028(10)	0.0018(11)	0.0128(16)	0.1142(10)	0.0039(8)	0.0602(8)	0.0506(12)	0.0094(10)
recognito_002	2023-11-09	0.0017(5)	0.0011(4)	0.0076(4)	0.1171(11)	0.0040(9)	0.0567(6)	0.7009(79)	0.0082(7)
psl_001	2024-02-22	0.0037(17)	0.0017(9)	0.0134(17)	0.1071(8)	0.0041(10)	0.0613(9)	0.0391(7)	0.0156(17)
omnigarde_001	2024-06-25	0.0031(12)	0.0016(8)	0.0119(12)	0.1192(12)	0.0048(11)	0.0678(13)	0.0466(8)	0.0138(13)
innovatrics_011	2024-05-14	0.0031(11)	0.0018(13)	0.0122(14)	0.3754(40)	0.0052(12)	0.0725(19)	0.0610(16)	0.0093(9)
cubox_000	2021-08-24	-	0.0023(22)	0.0156(24)	0.1275(14)	0.0053(13)	0.0626(10)	0.0381(6)	0.0175(19)
cyberlink_006	2024-06-12	0.0039(18)	0.0020(18)	0.0143(20)	0.9582(80)	0.0054(14)	0.1135(48)	0.0489(9)	0.0145(15)
maxvision_004	2023-12-12	0.0037(16)	0.0019(17)	0.0168(27)	0.1094(9)	0.0054(15)	0.0709(15)	0.9969(87)	0.0141(14)
intema_000	2022-08-24	0.0039(19)	0.0018(15)	0.0142(19)	0.1454(17)	0.0055(16)	0.0697(14)	0.3449(67)	0.0137(12)
canon_003	2023-09-05	0.0036(14)	0.0017(10)	0.0108(8)	0.1680(23)	0.0059(17)	0.0630(11)	0.0505(11)	0.0184(20)
xforwardai_002	2021-05-24	0.0039(20)	0.0026(28)	0.0144(21)	0.1206(13)	0.0060(18)	0.0854(33)	0.0507(13)	-
useb_001	2023-09-12	0.0059(52)	0.0028(32)	0.0189(30)	0.9598(82)	0.0063(19)	0.0717(18)	0.7313(80)	0.0263(26)
clearviewai_001	2024-02-16	0.0060(23)	0.0025(25)	0.0158(23)	0.1356(14)	0.0063(20)	0.0665(12)	0.0637(20)	0.0312(33)
kogniza_000	2024-05-14	0.0088(40)	0.0042(52)	0.0228(44)	0.3454(39)	0.0065(21)	0.0715(17)	0.0713(22)	0.0417(44)
armatura_000	2023-04-13	0.0062(34)	0.0032(40)	0.0216(40)	0.1763(25)	0.0067(22)	0.0751(24)	0.0666(21)	0.0273(28)
neurotechnology_014	2023-12-27	0.0052(28)	0.0023(23)	0.0165(25)	0.1516(18)	0.0070(23)	0.0769(26)	0.0693(23)	0.0244(25)
hyperverge_002	2022-04-13	0.0052(26)	0.0027(30)	0.0222(42)	0.1670(22)	0.0071(24)	0.0791(27)	0.0627(18)	-
alchera_006	2023-11-22	0.0074(41)	0.0033(41)	0.0203(35)	0.9662(84)	0.0073(25)	0.0749(23)	0.5597(75)	0.0362(35)

Showing 1 to 25 of 142 entries   Previous 1 2 3 4 5 6 Next

NIST FRVT 1:N identification (T>0) performance of the top-25 companies ranked according to "border to visa (1.6 million) images" matching accuracy. The table extracted from the NIST FRVT 1:N website[Updated 2024-07-03]

The top 25 most accurate developers in the NIST FRVT 1:N identification test as of 7/3/2024

Algorithm	Gallery / Probe / Date	Mugshot Mugshot N = 12000000	Mugshot Mugshot N = 1600000	Mugshot Webcam N = 1600000	Mugshot Profile 90° N = 1600000	Visa Border N = 1600000	Visa Kiosk N = 1600000	Border Border ΔT ≥ 10 YRS N = 1600000	Mugshot Mugshot ΔT ≥ 12 YRS N = 3000000
psl_001	2024-02-22	0.0011(5)	0.0008(1)	0.0054(2)	0.0518(3)	0.0009(1)	0.0404(4)	0.0066(6)	0.0029(7)
cloudwalk_mt_002	2023-02-24	0.0019(47)	0.0018(63)	0.0110(62)	0.0520(4)	0.0009(2)	0.0387(1)	0.0046(2)	0.0025(3)
pgzsmartvisional_000	2024-03-15	0.0010(3)	0.0008(2)	0.0055(3)	0.0526(5)	0.0010(3)	0.0394(2)	0.0061(5)	0.0026(4)
recognito_002	2023-11-09	0.0010(4)	0.0009(4)	0.0061(5)	0.0601(17)	0.0011(4)	0.0405(5)	0.0476(47)	0.0031(11)
sensetime_009	2023-01-04	0.0010(1)	0.0008(3)	0.0054(1)	0.0517(2)	0.0011(5)	0.0689(52)	0.0050(4)	-
roc_016	2023-12-20	0.0013(11)	0.0010(12)	0.0062(8)	0.0601(18)	0.0012(6)	0.0438(8)	0.0116(18)	0.0030(9)
clearviewai_001	2024-02-16	0.0014(14)	0.0011(14)	0.0073(21)	0.0550(8)	0.0012(7)	0.0494(20)	0.0087(13)	0.0040(21)
nec_009	2023-12-21	0.0011(6)	0.0010(11)	0.0061(6)	0.0510(1)	0.0012(8)	0.0402(3)	0.0030(1)	0.0022(1)
kakao_002	2023-11-07	0.0016(34)	0.0013(45)	0.0088(42)	0.0559(9)	0.0013(9)	0.0419(6)	0.0077(8)	0.0028(5)
idemia_010	2023-01-11	0.0010(2)	0.0009(5)	0.0063(10)	0.0583(13)	0.0013(10)	0.0456(12)	0.0082(10)	0.0023(2)
omnigarde_001	2024-06-25	0.0012(8)	0.0009(6)	0.0059(4)	0.0576(10)	0.0013(11)	0.0505(23)	0.0095(16)	0.0034(14)
paravision_014	2023-06-08	0.0011(7)	0.0009(9)	0.0070(15)	0.0589(15)	0.0013(12)	0.0435(7)	0.0082(9)	0.0029(6)
megvii_004	2023-10-18	0.0013(13)	0.0012(34)	0.0078(28)	0.0547(6)	0.0013(13)	0.0490(19)	0.0046(3)	0.0029(8)
maxvision_004	2023-12-12	0.0014(20)	0.0012(35)	0.0090(44)	0.0549(7)	0.0014(14)	0.0509(27)	0.0621(75)	0.0031(10)
kogniza_000	2024-05-14	0.0020(52)	0.0016(56)	0.0105(56)	0.0888(49)	0.0014(15)	0.0524(30)	0.0090(14)	0.0049(25)
cyberlink_006	2024-06-12	0.0014(16)	0.0011(25)	0.0069(14)	0.0958(53)	0.0014(16)	0.0631(46)	0.0084(11)	0.0033(12)
neurotechnology_014	2023-12-27	0.0012(10)	0.0009(8)	0.0063(9)	0.0592(16)	0.0014(17)	0.0503(23)	0.0122(21)	0.0036(18)
s1_004	2023-02-03	0.0016(43)	0.0013(44)	0.0092(45)	0.0638(22)	0.0014(18)	0.0453(11)	0.0132(25)	0.0039(19)
nominder_002	2024-06-05	0.0018(45)	0.0015(52)	0.0108(39)	0.0618(19)	0.0015(19)	0.0443(9)	0.0156(30)	0.0048(32)
intema_000	2022-08-24	0.0016(30)	0.0013(42)	0.0083(39)	0.0578(11)	0.0015(20)	0.0506(24)	0.0121(20)	0.0034(13)
innovatrics_011	2024-05-14	0.0014(18)	0.0011(19)	0.0071(18)	0.0800(43)	0.0015(21)	0.0464(13)	0.0130(23)	0.0034(15)
useb_001	2023-09-12	0.0016(38)	0.0012(38)	0.0092(46)	0.1048(56)	0.0015(22)	0.0483(17)	0.0166(33)	0.0042(23)
alchera_006	2023-11-22	0.0016(41)	0.0012(39)	0.0093(47)	0.1060(57)	0.0016(23)	0.0481(16)	0.0177(37)	0.0046(21)
ariaule_001	2022-07-26	0.0015(28)	0.0012(35)	0.0079(29)	0.1325(60)	0.0016(24)	0.0588(38)	0.0443(64)	0.0044(28)
viante_000	2023-10-02	0.0015(28)	0.0013(40)	0.0080(34)	0.0822(46)	0.0016(25)	0.0508(26)	0.0076(7)	0.0036(17)

Showing 1 to 25 of 142 entries   Previous 1 2 3 4 5 6 Next

NIST FRVT 1:N investigation (R=1, T=0) performance top-25 companies ranked according to "border to visa (1.6 million) images" matching accuracy. The table extracted from the NIST FRVT 1:N website[Updated 2024-07-03]

The top 25 most accurate developers in the NIST FRVT 1:N investigation test as of 7/3/2024

benchmarks such as the NIST ongoing FRVT 1:1 and 1:N, MINEX (Minutiae Interoperability Exchange) III, and PFT (Proprietary Fingerprint Template) III benchmarks. Omnigarde's ultimate objective is to become a leading biometric core technologies provider. The company's vision is to enhance people's quality of life, to make it easier and more secure.

The Face Recognition Vendor Test (FRVT) is a set of evaluations conducted by the National Institute of Standards and Technology (NIST) to assess the performance of face recognition software submitted worldwide. These unbiased and independent evaluations aim to provide government agencies, industry, and the research community about the performance of face recognition software, empowering organizations to make informed decisions when selecting a face recognition system. No companies have access to test images, ensuring that submitted software is not trained specifically for the test. The FRVT consists of two main types of tests: 1:1 and 1:N. The 1:1 test compares a probe face image with a pre-enrolled target face image to determine whether it belongs to the same subject. The 1:N test compares a query face image with pre-enrolled face images to calculate similarity scores. The purpose of this test is to determine whether the query face matches any of the pre-enrolled face images or not. Apart from FNMR and FMR, additional metrics evaluated include memory size (RAM), feature vector size (data representation of facial features), feature extraction time (time taken to extract facial features), and matching time (time taken to compare and match faces). These metrics provide a comprehensive assessment of the software's efficiency, accuracy, and computational requirements. Both 1:1 and 1:N tests are an ongoing benchmark, allowing software developers to continually enhance their algorithms and submit improved versions for evaluation every four months. Test results are periodically updated and published on the NIST FRVT webpage, ensuring transparency and providing stakeholders with up-to-date information for decision-making. The results also serve as references for vendors to improve their software, guiding them in addressing performance challenges and advancing their technology.

Peter Lo
Omnigarde LLC
peter.lo@omnigarde.com