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	: Superior Court of New Jersey
STATE OF NEW JERSEY,	: Appellate Division
Plaintiff–Respondent,	:
	: Criminal Action
V.	: Docket No. A-003078-21T1
	:
FRANCISCO ARTEAGA,	: Sat below:
Defendant–Appellant.	: Hon. Mitzy Galis-Mendez, P.J.S.C
	_: Hudson County Superior Court

BRIEF OF AMICI CURIAE THE AMERICAN CIVIL LIBERTIES UNION, THE AMERICAN CIVIL LIBERTIES UNION OF NEW JERSEY, & THE INNOCENCE PROJECT

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PRELIMINARY STATEMENT

When facial recognition technology ("FRT") is responsible for identifying someone as the perpetrator of a crime, that person must have the opportunity to scrutinize and challenge that technology. Anything less harms both the suspect's due process rights and the integrity of any resulting conviction. For that reason, *amici* support Mr. Arteaga's motion seeking discovery related to Hudson County law enforcement's reliance on the New York Police Department's ("NYPD") facial recognition system, which played an active role in the police investigation that inculpated Mr. Arteaga.

Both FRT and the ways it is used and relied on by human investigators are shrouded in secrecy: without access to underlying information, the defense has no ability to test the reliability of the FRT and human processes at issue in any case. This is despite the fact that it is known that the use of FRT in police investigations can bring with it errors and biases leading to wrongful identifications and arrests. Some of these problems are intrinsic to how FRT works: for example, the race, gender, or age of the suspect have been demonstrated to affect the reliability of FRT results. Other problems arise in how FRT is used: for example, if the "probe image" is low quality—perhaps with closed eyes or a turned head—human analysts may edit or modify it, skewing the results and calling into question the integrity of any "match." Finally, the use of FRT may lead to constitutional violations in suspect identification procedures: since FRT systems are designed to return results that *look like* the individual in the probe image, including a single FRT-generated look-alike image in a photo array or lineup otherwise comprised of people matching only a general description of a suspect can render the identification procedure unduly suggestive. (Point I).

In sum, the use of FRT introduces new problems in suspect identification while exacerbating old ones. For that reason, Mr. Arteaga moved for discovery regarding the facial recognition system that the NYPD used to identify him. Some of the information he requested was as basic as the name and maker of the NYPD's facial recognition software. He also sought performance metrics that would elucidate the accuracy of the facial recognition system, the source code for the implementing software, the complete candidate match list produced by the NYPD, information about the makeup and composition of the database that was probed for matches, and the reports produced by the human analyst who operated the system and ultimately identified Mr. Arteaga as the suspect from among the faces on the candidate list. Mr. Arteaga needs this basic discovery to demonstrate the reliability problems inherent in the system that identified him as a suspect in the robbery at Buenavista Multi-Services, challenge the investigation that inculpated him, and present a complete defense.

Information about the NYPD's FRT system is "material either to guilt or to punishment" in the criminal proceeding against Mr. Arteaga, making it exculpatory information that the prosecutor is constitutionally obligated to turn over under Brady v. Maryland, 373 U.S. 83, 87 (1963) (Point II). Reliability problems inherent to the technology and processes underpinning an identification procedure constitute exculpatory *Brady* material because they undermine the reliability of the identification procedure (Point II.A) and render it unduly suggestive (Point II.B). The technical information requested by Mr. Arteaga also falls under the prosecutor's *Brady* obligations because it could reasonably give him the chance to present a defense of mistaken identity (Point II.C) or discredit the integrity of the police's investigation (Point II.D). When the trial court denied Mr. Arteaga the discovery he sought regarding NYPD's FRT system, it denied Mr. Arteaga due process long established under *Brady*.

Additionally, the Hudson County Prosecutor's Office ("HCPO") is obligated to provide these materials to Mr. Arteaga, even if the FRT search was undertaken by another agency—in this case, the NYPD. Indeed, HCPO failed in even its basic duty to seek out exculpatory material from law enforcement partners working on its behalf: it has apparently claimed it has no such obligation on the grounds that, because the NYPD is beyond the HCPO's control, the HCPO has no responsibility to provide information on the NYPD's FRT. But *Brady* obligates prosecutors to seek out, evaluate, and produce exculpatory or impeachment material from law enforcement partners so long as they are members of the "prosecution team," even when those law enforcement partners belong to completely different sovereigns (Point III). As such, because the NYPD's role in the investigation makes it a part of the HCPO's "prosecution team," the HCPO is responsible for seeking out exculpatory information about the NYPD's use of FRT and producing it to Mr. Arteaga (Point III.A). This is especially relevant in the present case: New Jerseyans' due process rights do not disappear when New Jersey law enforcement outsources core parts of its police investigations to New York, particularly where New Jersey law enforcement benefits from ready access to the NYPD's untested surveillance tools (Point III.B).

Mr. Arteaga had the right to compel the prosecutor to seek out and produce exculpatory information about the NYPD's use of FRT. His case exemplifies the problem posed by law enforcement's use—and outsourcing—of emerging and untested technologies: the failure to provide the basic information necessary to test and evaluate how law enforcement used these tools to identify him as a suspect necessarily harms the accused's due process rights. *Amici* urge the Court to grant Mr. Arteaga's discovery request.

STATEMENT OF FACTS AND PROCEDURUAL HISTORY

For the purpose of this brief, *amici* accept the statement of facts and procedural history contained in Mr. Arteaga's supplemental brief.

ARGUMENT

I. Inherent to any identification derived from an FRT "match" are technological limitations, human subjectivity, biases, and errors.

A facial recognition "match" is the result of human judgment applied to unreliable and—for the defense—untestable technology. Unlike certain other investigative tools, such as DNA testing, "facial recognition is not a science."¹ Indeed, one manufacturer of facial recognition technology describes it as "the 21st-century evolution of the sketch artist."²

A facial recognition search is often *the only investigation* undertaken by law enforcement before it places the FRT-returned "match"—*i.e.*, the suspect, generated through only the FRT-process—into an eyewitness identification procedure, such as a lineup or photo array. Despite this critical function in the investigation, however, the use of facial recognition technology by law

¹ Vigilant Solutions, *Facial Recognition: Art or Science* 15 (2019) (*See* Amicus Appendix (hereafter, "Aa") 3). The documents cited in this Brief, with the exception of A. Daniel Yarmey's article *Expert Testimony*, are all available using standard search methods. *Expert Testimony* is reproduced in this Appendix. To aid the Court in locating materials available online, *amici* have further provided in the Appendix a table of citations, including URLs where the documents may be accessed electronically.

enforcement is not "regulated" and in most jurisdictions "there are no restrictions in place" on its use.³ This is in stark contrast to other law enforcement tools such as, for example, DNA evidence, which is subject to "strict and standardized requirements" including training requirements for its examiners.⁴ For all of these reasons, serious evidentiary scrutiny is necessary before an identification based on an FRT-generated lead is presented to a jury.

The NYPD, which is the agency that performed the FRT search in this case, has not—and does not—release information to the public regarding the technology used by its Facial Identification Section ("FIS"). However, based on a review of available public documents,⁵ NYPD's FIS appears to function in the following manner and raises the following concerns:

³ *Id.* at 15; *see also* Kristin Finklea et al., Cong. Rsch. Serv., R46586, *Federal Law Enforcement Use of Facial Recognition Technology* 14 (2020) (Aa1) ("There are currently no federal laws specifically governing law enforcement agencies' use of FRT, and law enforcement agencies around the country may rely on a patchwork of technology platforms and algorithms for their facial recognition systems.").

⁴ Rebecca Darin Goldberg, You Can See My Face, Why Can't I? Facial Recognition and Brady, 5 Colum. Hum. Rts. L. Rev. Online 261, 270–71, 281 (Apr. 12, 2021) (Aa1).

⁵ See generally Clare Garvie, Garbage In, Garbage Out, Face Recognition on Flawed Data, Geo. L. Ctr. on Privacy & Tech. (May 16, 2019) (Aa1); Jennifer Lynch, Face Off: Law Enforcement Use of Face Recognition Technology, Elec. Frontier Found. (Feb. 12, 2018) (Aa2); Stephen Rex Brown, NYPD Ripped for Abusing Facial Recognition Tool, N.Y. Daily News (Mar. 1, 2018) (Aa1); Pei-Sze Chang, Use of Facial Recognition Technology Expands as Some Question Whether Rules Are Keeping Up, N.B.C. N.Y. (June 23, 2015) (Aa1).

FIS receives at least one image for comparison (the "probe"). Because the FRT system works best with a full frontal open-eyed, closed-mouth image of sufficient resolution, before running the photo through the comparison software, the FIS officer may alter or edit the probe photo, for example, photoshopping in a random set of open eyes or a closed mouth, or using software to rotate a threequarter view to a full frontal, and then creating the rest of the face based on his or her best guess of what the person might look like. The software then processes the probe image by identifying and analyzing certain points and features of the face and generating a mathematical or numerical value often known as a "faceprint." The system compares the faceprint to other faceprints in the database, which have been extracted from mug shots and other photos uploaded by law enforcement. The software then generates a "candidate list" of as many as several hundred look-alike photos. The software next assigns each look-alike a numerical confidence ratio and generates a report including the photos and confidence ratios for each identified look-alike. Finally, a technician looks at the report and chooses which image is a "possible match."

The process raises significant concerns about reliability. Most obviously, because the software returns several hundred images, the candidate list necessarily consists largely—or even exclusively, if the actual match is not in the database at all—of *false positives*, that is, images of individuals who may

look like the suspect depicted in the probe photograph, but who are not in fact the same individual as the suspect.⁶ Moreover, the quality of the probe photo and the ways in which it is manipulated necessarily affect the accuracy of the "possible match." Facial recognition systems exhibit racial bias, performing worse on people of color, women, and young adults than on Caucasians, men, and older people. Image quality, including lighting, angle, pixel density, and partial occlusion of the face, also affects accuracy. According to the National Institute of Standards and Technology ("NIST") "even the best algorithms can be wrong more than 20 percent of the time."7 Moreover, the human analyst who chooses the "possible match" is also subject to error. Indeed, "research has shown that human operators make 50% errors on average when deciding which faces in candidate lists match the search image. This is consistent with research on eye-witness identification-which is known to be unreliable, with well-

⁶ See, e.g., Christian Rathgeb et al., *Reliable Detection of Doppelgängers Based* on Deep Face Representations, 11 IET Biometrics 215 (2022) (Aa 2) (noting, in the article abstract, that in a facial recognition system "doppelgänger image pairs yield very high similarity scores resulting in a significant increase of false match rates").

⁷ Khari Johnson, *The Hidden Role of Facial Recognition Tech in Many Arrests*, Wired, Mar. 7, 2022 (Aa 2); *see also* Mark MacCarthy, *Mandating Fairness and Accuracy Assessments for Law Enforcement Facial Recognition Systems*, The Brookings Inst., May 26, 2021 (Aa 2) (reporting that when using "the lower quality images typically captured in real world settings, error rates climb as high as 20%" according to the NIST's assessments).

meaning witnesses often mistakenly identifying innocent suspects."⁸ "Even if the person to be identified is not among the photographs [the FRT system] loads, the relative judgment process will nevertheless yield a positive identification [in most cases] because there will always be someone who looks more like the culprit than the remaining lineup members."⁹

Presumably for these reasons, NYPD's own procedures specify that an FIS "possible match" alone cannot constitute probable cause to arrest.¹⁰ To generate probable cause, the selected "match" is often included in a photo array along with several filler photographs that were *not* generated by the FRT analysis. If the witness identifies as the suspect the FRT-generated "match" that was selected by a law enforcement officer, that witness identification may be deemed probable cause for an arrest. These identification procedures pose the

⁸ David White et al., *Human Oversight of Facial Recognition Technology in Forensic Applications* (NTL0012), submitted as written evidence to Justice & Home Affairs Committee, *Technology Rules? The Advent of New Technologies in the Justice System*, 2021-2, HL-180 (UK) (Aa3). *See also* David White et al., *Error Rates in Users of Automatic Face Recognition Software*, 10 PlosOne e0139827 (Oct. 14, 2015) (Aa3) (concluding that the subjective selection process "potentially reduc[es] benchmark estimates [of FRT accuracy] by 50% in operational settings").

⁹ Inioluwa Deborah Raji et al., *Saving Face: Investigating the Ethical Concerns of Facial Recognition Auditing*, '20 Proc. of the Ass'n for the Advancement of A.I./Ass'n for Computing Machinery Conf. on A.I., Ethics & Soc'y 145 (Feb. 2020) (Aa2).

¹⁰ N.Y. Police Dep't, NYPD Questions and Answers Facial Recognition (Aa2).

additional issue of suggestiveness.¹¹ Because results generated by "facial recognition programs are *specifically designed* to look like the perpetrator," "[t]he inclusion of a suspect selected by facial recognition in an identification procedure may increase the chance of eyewitness misidentification because eyewitnesses are likely to positively identify look-alikes, regardless of whether the look-alikes are actually the perpetrator."¹² "If a witness is shown only one computer-selected image" in a photo array, as is typically the case, "the witness's corroboration may be so closely tied to the computerized face-recognition match that it lacks independence."¹³

II. Information about the Facial Recognition Technology used by the NYPD constitutes *Brady* material that must be disclosed to the defense.

Under *Brady v. Maryland*, the prosecution must disclose evidence to the defense if it is both "favorable to an accused" and "material either to guilt or to

¹¹ Henry H. Perritt Jr., *Defending Face-Recognition Technology (And Defending Against It)*, 25 J. of Tech. L. & Pol'y 42, 59 (2020).

¹² Goldberg, You Can See My Face, Why Can't I?, supra note 4, at 274; see also, e.g., id. at 278 ("Defendants have reason to seek information about the number of matches provided by a facial recognition search because if more than one result is provided, the defendant has a stronger case for mistaken identity."); Laura Moy, Facing Injustice: How Face Recognition Technology May Increase the Incidence of Misidentifications and Wrongful Convictions, 30 Wm. & Mary Bill Rts. J. 337 (2021).

¹³ Perritt, *Defending Face-Recognition Technology, supra* note 11, at 59. "On the other hand, if the witness is shown multiple faces generated by the computer system, they will resemble each other . . . and the suggestiveness sometimes present in a conventional photo array is reduced." *Id.* at 105.

punishment." 373 U.S. 83, 87–88 (1963). Both impeachment evidence and exculpatory evidence "fall[] within the *Brady* rule." *United States v. Bagley*, 473 U.S. 667, 676 (1985). The *Brady* rule is premised on the fundamental principle that "[s]ociety wins not only when the guilty are convicted but when criminal trials are fair; our system of the administration of justice suffers when any accused is treated unfairly." *Brady*, 373 U.S. at 87.¹⁴ As such, the withholding constitutes constitutional error when, in its absence, someone accused of a crime cannot receive a "fair trial, understood as a trial resulting in a verdict worthy of confidence," or when the failure to disclose, "considered collectively" in the context of the other evidence, "undermines confidence in the outcome of the trial." *Kyles v. Whitley*, 514 U.S. 419, 434, 436 (1995) (citing

¹⁴ A prosecutor's obligation to disclose favorable, material evidence is not limited to evidence that is admissible at trial. Inadmissible evidence that could lead to admissible evidence is encompassed under the *Brady* rule. See, e.g., United States v. Sipe, 388 F.3d 471, 485 (5th Cir. 2004) ("Evidence may be material under Brady even though it is inadmissible."); United States v. Gil, 297 F.3d 93, 104 (2d Cir. 2002) ("[I]nadmissible evidence may be material under Brady.") (quoting Spence v. Johnson, 80 F.3d 989, 1005 n.14 (5th Cir. 1996)); Wright v. Hopper, 169 F.3d 695, 703 (11th Cir. 1999) ("Inadmissible evidence may be material [under *Brady*] if the evidence would have led to admissible evidence."); Coleman v. Calderon, 150 F.3d 1105, 1116 (9th Cir.), rev'd on other grounds 525 U.S. 141 (1998) ("To be material [under Brady], evidence must be admissible or must lead to admissible evidence."); United States v. Phillip, 948 F.2d 241, 249 (6th Cir. 1991) ("Certainly, information withheld by the prosecution is not material unless the information consists of, or would lead directly to, evidence admissible at trial for either substantive or impeachment purposes.").

Bagley, 473 U.S. at 678).¹⁵ It is incumbent upon the prosecution to locate and disclose this information. *Id.* at 437 ("[T]he individual prosecutor has a duty to learn of any favorable evidence known to the others acting on the government's behalf in the case, including the police.").

As detailed below, the FRT evidence sought falls squarely within the scope of the prosecution's disclosure obligations under *Brady*, as Mr. Arteaga could use this evidence to undermine the reliability of the identification of the defendant as the perpetrator, discredit the police investigation, and support a theory of mistaken identity.

¹⁵ Some courts have held that *Brady* requires prosecutors to disclose favorable evidence to the defense irrespective of how that evidence might impact the defendant's trial. *See, e.g., United States v. Bundy*, 968 F.3d 1019, 1033 (9th Cir. 2020) (quoting *United States v. Olsen*, 704 F.3d 1172, 1183 n.3 (9th Cir. 2013)) ("[T]rial prosecutors must disclose favorable information without attempting to predict whether its disclosure might affect the outcome of the trial."); *United States v. Safavian*, 233 F.R.D. 12, 16 (D.D.C. 2005) ("[T]he government must always produce any potentially exculpatory or otherwise favorable evidence without regard to how the withholding of such evidence might be viewed . . . as affecting the outcome of the trial. The question before trial is not whether the government thinks that disclosure of the information or evidence . . . might change the outcome of the trial going forward, but whether the evidence is favorable and therefore must be disclosed.").

A. The FRT material must be disclosed under *Brady* because it could be used to undermine the reliability of the identification of Mr. Arteaga as the alleged perpetrator.

Evidence that undermines the reliability of the identification of the defendant as the suspect must be disclosed under *Brady. See, e.g., Bowen v. Maynard*, 799 F.2d 593, 611 (10th Cir. 1986) (*Brady* violation occurred by prosecutor's failure to disclose evidence through which "the reliability of the identification procedures could have been undermined and the witnesses impeached"); *Lindsey v. King*, 769 F.2d 1034, 1042 (5th Cir. 1985) (*Brady* required the disclosure of evidence that "carried within it the potential . . . for the destruction of [the witness's] identification of [the defendant]").

The defense could use the FRT evidence—specifically the full candidate list generated by the software as well as the processes used, reports generated, and training received by the human analyst who ultimately chose Mr. Arteaga as the single "match"—to undermine the reliability of the identification in this case because the candidate list demonstrates that there are many other individuals who bear a physical resemblance to the probe photo, yet law enforcement limited its investigation to Mr. Arteaga. If a jury were presented with this evidence, there is a reasonable probability that it may place substantially less weight on the identification, especially if the FRT analysis assigned similar or higher confidence scores to other potential matches.¹⁶

State v. Feldman is instructive. There, the Law Division granted a motion to compel the State to provide the full list of fingerprint matches generated by the Automated Fingerprint Information System ("AFIS"), "which permits latent fingerprints to be electronically compared by a computer with a large data base consisting of over 900,000 sets of known fingerprints of persons previously involved with the criminal justice system." 254 N.J. Super. 754, 755 (Law Div. 1992). Automated fingerprint analysis works very similarly to FRT analysis. When latent fingerprints are submitted for AFIS analysis, "the computer will generate a candidate list ranked in order of the closeness of their match." *Id.* at 757. An AFIS operator will then examine the list to determine whether there is a match. Once the AFIS "operator determines that there is a likely match, only the name of that candidate is sent to the requesting police agency." *Id.* at 758.

The *Feldman* court found that the "information entered into and produced by AFIS," including the AFIS fingerprint match list, must be disclosed because

¹⁶ See, e.g., Goldberg, You Can See My Face, Why Can't I?, supra note 4, at 291 ("Both facial recognition confidence scores and results can affect the jury's judgment. First, the jury can determine that the unreliability of a low-confidence identification made by facial recognition software may undercut the reliability of the prosecution's proof at trial. Alternatively, the jury can decide that the defendant visually resembled several other individuals, any of whom could have been the perpetrator.").

it would enable the defendant to "challenge the determination made by the operator by showing that there are other persons with a match that is as close to that of the latent fingerprint as is that of [the defendant] sent to the requesting police agency." *Id.* at 759. In so holding, the court rejected the prosecution's argument that "the AFIS information is not relevant because it is not part of the identification process." *Id.* at 758. The court held that "[i]n fact, the AFIS analysis is the basis for [the] identification process." *Id.* As in *Feldman*, the FRT analysis is "the basis for [the] identification process" that led to the defendant's arrest; and so the defendant is entitled to FRT evidence to call into question the validity of the identification process.¹⁷

Moreover, the candidate list and accompanying confidence scores are analogous to witness statements expressing uncertainty in an identification, which courts have held must be disclosed under *Brady* as impeachment evidence. *See, e.g., Boyette v. Lefevre*, 246 F.3d 76, 91 (2d Cir. 2001) (witness statement that the defendant "may have been one of her attackers" was "classic *Brady* material" because it reflected the witness's uncertainty regarding whether the defendant was among the perpetrators); *Jacobs v. Singletary*, 952 F.2d 1282,

¹⁷ See, e.g., Perritt, *Defending Face Recognition Technology, supra* note 11, at 96–97 ("When computerized face-matching algorithms are used as a foundation for witness identification, their use should be subject to scrutiny, just like the construction of the lineup, show up or photo array.").

12888 (11th Cir. 1992) (*Brady* required the disclosure of a report stating that the witness "was unsure whether" the defendant had committed the crime); *Burt v. Aleman*, No. 05-CV-4493 (NGG), 2008 U.S. Dist. LEXIS 35846, at *23–25 (E.D.N.Y. Apr. 30, 2008) (holding that the prosecution was required to disclose "evidence of [the witness's] doubts about her identification" because these "statements would have been important impeachment evidence for [the defendant] to use to undermine the jury's confidence in the reliability of the [witness's] identification of him" as the perpetrator); *State v. Anthony*, 237 N.J. 213, 233–34 (2019) (providing a pretrial hearing on the admissibility of identification evidence whenever the State fails to create or provide an electronic or contemporaneous, verbatim written recording of the identification procedure, including confidence statements).

Just as a witness might say, "this individual *may* have been the person who committed the crime," the FRT analysis is in effect saying that each individual on the match list *may* be the same individual who is depicted in the probe photograph.¹⁸ There is a reasonable probability that a jury might find that the uncertainty expressed by the FRT analysis undermines the prosecution's

¹⁸ See, e.g., Goldberg, You Can See My Face, Why Can't I?, supra note 4, at 285 ("[I]f a testifying witness expresses a low level of confidence in an eyewitness identification, such information would be *Brady* material... If it is *Brady* information when a human witness informs law enforcement of her lack of certainty, it should be *Brady* information when facial recognition does, too.").

contention that that the defendant is the same individual as the suspect. A jury might also find that the officer's relative *certainty* in their conclusions drawn from an inherently *uncertain* technology and process undermines the reliability of that officer and the entire investigation and prosecution—as well it should.

B. *Brady* requires disclosure of unduly suggestive identification procedures, such as any photo array that includes a single FRT-generated image.

Mr. Arteaga would also be able to use the FRT discovery he seeks to demonstrate that the eyewitness identification procedures in his case were unduly suggestive. Evidence of unduly suggestive identification procedures must be disclosed under *Brady. See, e.g., Carrillo v. County of Los Angeles*, 798 F.3d 1210, 1227 (9th Cir. 2015) ("[P]olice officers' failure to disclose the use of suggestive tactics [in identifications] violates *Brady.*"); *see also, e.g., Rosario v. City of New York*, No. 18-4023, 2021 WL 199342, at *5 (S.D.N.Y. Jan. 20, 2021) ("Suppression of evidence of suggestive identification procedures can support a § 1983 *Brady* claim."). Suggestive identification procedures are a "major factor contributing to the high incidence of miscarriage of justice from mistaken identification." *United States v. Wade*, 388 U.S. 218, 228 (1967).¹⁹

¹⁹ See also, e.g., A. Daniel Yarmey, *Expert Testimony: Does Eyewitness Memory Research Have Probative Value for the Courts?*, 42 Can. Psych. 92 (2001) (Aa4) ("[M]istaken eyewitness identification[s are] responsible for more wrongful convictions than all other causes combined.").

"Suggestion can be created intentionally or unintentionally in many subtle ways." *Id.* at 229 & n.7.

If Mr. Arteaga's image was the only image in the photo array generated by FRT, his photograph would likely have stood out from the filler photographs. This is because the FRT algorithm is "designed to find multiple lookalikes rather than a single positive match," and thus necessarily returns a large number of false positive results that by definition and design will nevertheless look very similar to the probe photograph.²⁰ An FRT-generated image in a photo array even one that is a false positive—is likely to look much more similar to the suspect than a filler photo chosen manually by officers. It is highly likely that a witness will choose the FRT-generated image, even though this image may be a false positive look-alike. A less suggestive procedure would incorporate additional FRT-generated matches that are also closer to the probe photograph. Without that, eyewitnesses will naturally gravitate to the only FRT-generated match, who will always be an individual who, by design, looks like the suspect in the photograph. See, e.g., Grant v. City of Long Beach, No. 01-56046, 2003 U.S. App. LEXIS 13038, at *14 (9th Cir. June 27, 2003) (finding a photo array unduly suggestive where, *inter alia*, the defendant's facial "features [bore] little resemblance to the others in the array. His face appears long and narrow,

²⁰ Moy, *Facing Injustice*, *supra* note 12, at 350; *see also supra* Point I.

whereas four of the other five individuals ha[d] rounder, fuller faces."); see also generally United States v. Brown, 12-CR-103-WMS-JJM-3, 2015 U.S. Dist. LEXIS 199133, at *13 (W.D.N.Y. Nov. 3, 2015) (noting that "under certain circumstances," even relatively minor differences "in backgrounds or complexions may draw the viewer's eye to a particular photograph[,] creating the possibility that the photographic array is unduly suggestive") (citing United States v. Williams, 12-CR-6152G, 2015 U.S. Dist. LEXIS 12547, at *3 (W.D.N.Y. Feb. 2, 2015)); State v. Ledbetter, 881 A.2d 290, 314 (Conn. 2005) (recognizing that "[t]here is good empirical evidence to indicate that eyewitnesses tend to identify the person from the lineup who, in the opinion of the eyewitness, looks most like the culprit relative to other members of the lineup") (emphasis added), overruled on other grounds by State v. Harris, 191 A.3d 119 (Conn. 2018).²¹ Indeed, the generation of false positives through the use of FRT risks "false accusations"²² and may "alter the traditional presumption

²¹ See also, e.g., Rudolf Koch, Note, Process v. Outcome: The Proper Role of Corroborative Evidence in Due Process Analysis of Eyewitness Identification Testimony, 88 Cornell L. Rev. 1098, 1104–05 (2003) (explaining that one of the problems with eyewitness identifications is that "witnesses commonly feel that they must pick the person in a lineup who looks most like the perpetrator and that no 'none-of-the-above' answer exists.").

²² Facial Recognition Technology (Part III): Ensuring Commercial Transparency & Accuracy: Hearing Before the H. Comm. on Oversight & Reform, 116th Cong. (statement of Dr. Charles H. Romine, Director, Information Technology Laboratory, National Institute of Standards & Technology) (Aa 2).

of innocence in criminal cases by placing more of a burden on suspects and defendants to show they are *not* who the system identifies them to be."²³

C. The FRT evidence must be disclosed under *Brady* because it supports a defense of mistaken identity.

Courts have held that evidence supporting the possibility that the defendant was mistaken for another individual must be disclosed under *Brady*. *See, e.g., United States v. Jernigan*, 492 F.3d 1050, 1055 (9th Cir. 2007) (evidence regarding "[t]he existence of another bank robber for whom [the defendant] may well have been mistaken" should have been disclosed under *Brady*); *Bowman v. Commonwealth*, 445 S.E.2d 110, 112 (Va. 1994) (report that provided "additional potential support for the [defendant's] mistaken identity defense" should have been disclosed under *Brady*); *Rogers v. State*, 782 So. 2d 373, 385 (Fla. 2001) (evidence that another individual "matched the description given by [the eyewitness]" was "bedrock *Brady* material[]" because the defense could have used it "to find other evidence linking [that other individual]" to the crime).

²³ Lynch, *Face Off: Law Enforcement Use of Face Recognition Technology*, *supra* note 5, at 10. *See also* Finklea et al., *Federal Law Enforcement Use of Facial Recognition Technology*, *supra* note 3, at 10 ("In one-to-many identification searches used by law enforcement, false positives could potentially contribute to errant investigative leads and false accusations.").

The defense could use the list of other potential matches generated by the FRT analysis, together with the accompanying scores, to demonstrate that the defendant was simply mistaken for another individual who bears a close resemblance not only to the defendant, but also to a number of other individuals with similar appearances.²⁴

D. The FRT evidence must be disclosed under *Brady* because it could be used to discredit the police investigation.

Brady requires the disclosure of evidence regarding a different suspect because "in the hands of the defense, it could have been used to . . . discredit the police investigation" of the crimes. Bowen, 799 F.2d at 612. Courts have held that *Brady* requires the disclosure of evidence that the defense could have used to call into question the thoroughness and accuracy of the investigation that led to the defendant's arrest. See, e.g., Kyles, 514 U.S. at 446 (evidence that would have enable the defense to "attack[] the reliability of the investigation in failing even to consider [another individual's] possible guilt" should have been disclosed under Brady); Lindsey, 769 F.2d at 1042 (finding that Brady required disclosure of evidence "carried within it the that the potential ... for ... discrediting, in some degree, of the police methods

²⁴ See, e.g., Goldberg, You Can See My Face, Why Can't I?, supra note 4, at 278 ("Defendants have reason to seek information about the number of matches provided by a facial recognition search because if more than one result is provided, the defendant has a stronger case for mistaken identity.").

employed in assembling the case against [the defendant]"); *see also Lay v. State*, 14 P.3d 1256, 1262 (Nev. 2000) (explaining that evidence "must be disclosed if it provides grounds for the defense to attack the reliability, thoroughness, and good faith of the police investigation").

The use of FRT often involves "unreliable techniques, untrained analysts, and insufficiently corroborated results."²⁵ Defense counsel could potentially use the FRT evidence to cast doubt on the thoroughness and accuracy of the police investigation by, for example, showing that law enforcement failed to investigate numerous other individuals on the potential match list with higher confidence scores or who better resembled the suspect's photograph; or demonstrating that the FRT analysis that led to the generation of the defendant as an investigative lead was infected by potential bias because law enforcement officers involved in the analysis had access to information concerning the defendant and/or the ongoing investigation. There is certainly a reasonable probability that a jury would find that these infirmities in the process that led to

²⁵ Facial Recognition Technology (Part I): Its Impact on Our Civil Rights & Liberties: Hearing Before the H. Comm. on Oversight & Reform, 116th Cong. (statement of Clare Garvie, Senior Associate, Georgetown Law Center on Privacy & Technology), at 19 (Aa 1).

law enforcement's decision to charge the defendant significantly undermine the reliability of the investigation.

Additional technical information about the FRT algorithm, such as performance metrics concerning potential error, the source code that implements the algorithm, or a description of the database of faces that the probe photo was run against, could also be used to call into question the police's investigation. Flaws in the FRT algorithm could call into question the integrity and reliability of the NYPD's system. Such flaws, for example, could lead the system to incorrectly exclude potential matches that might point to other suspects who were not investigated. Information about the NYPD's face database would elucidate for a factfinder the scope and thoroughness of the FRT's search for matches: if the NYPD searched only a small subset of potential faces for matches, that could indicate that the NYPD inappropriately limited its search in a way that would also prevent it from finding alternate suspects. Similarly, information about how a probe photo was manipulated might reveal that any images in the candidate list corresponded not to the perpetrator of the crime, but rather to an image that was in effect created by the FRT analyst.

III. Because the NYPD is a part of the "prosecution team" against Mr. Arteaga, the Hudson County Prosecutor's Office is responsible for seeking out and producing exculpatory facial recognition-related information in the possession of the NYPD.

When law enforcement officials in Hudson County cross the river to request assistance from the NYPD, their obligations under Brady travel with them. See State v. Nelson, 155 N.J. 487, 499–500 (1998) (defining "the prosecution" as any "law enforcement personnel and other arms of the state involved in investigative aspects of a particular criminal venture") (quoting Smith v. Sec'y of N.M. Dep't of Corr., 50 F.3d 801, 824 (10th Cir. 1995)). The NYPD was not only involved but played an indispensable role in the "prosecution team" against Mr. Arteaga. Id. In fact, without the work of the NYPD's Real Time Crime Center and its capacity to perform facial recognition searches, Mr. Arteaga would never have been identified as a potential suspect. Because the NYPD acted on behalf of Hudson County law enforcement when it used its facial recognition system to inculpate Mr. Arteaga, any knowledge or possession of exculpatory information must be imputed to HCPO. This includes the requested discovery about the facial recognition system. See supra Point II.

The present case highlights precisely why it is so important that actors like HCPO fulfill their obligation to account for exculpatory materials within the possession or knowledge of their law enforcement partners. Hudson County law enforcement²⁶ did not merely request the NYPD's routine, clerical assistance in its investigation; rather, the West New York Police Department relied on the NYPD to use a fraught and contested investigative tool to identify suspects on its behalf. It would seriously undermine the due process rights protected by Brady if law enforcement could outsource investigations to cooperating law enforcement agencies with problematic investigative techniques and tools, without the corresponding responsibility to look for and disclose material, favorable information about those tools. See Kyles, 514 U.S. at 437; cf. State v. Pickett, 466 N.J. Super. 270, 323-24 (App. Div. 2021) (finding that the use of new and "unique" forensic technologies counseled in favor of allowing defendants access to special information about that technology). HCPO cannot even claim that the requested material is not exculpatory or impeachment evidence, considering that it has not had the opportunity to inspect that information for itself and undertake the evaluation that Kyles requires. See State's Br. at 8 (explaining that all the discovery the State possesses regarding the photo array has already been provided).

²⁶ For our purposes, "Hudson County law enforcement" refers both to the HCPO and the West New York Police Department.

A. Because the NYPD conducted facial recognition searches on behalf of Hudson County law enforcement, the Hudson County Prosecutor was obliged to learn of and disclose exculpatory material within the NYPD's knowledge and possession.

A law enforcement agency cannot evade its constitutional responsibilities under Brady by outsourcing its investigations to other law enforcement agencies. In fact, a prosecutor's *Brady* obligation to produce all exculpatory information in the hands of the prosecution team can even extend to law enforcement partners in the federal government or in an entirely different state. In United States v. Antone, the Fifth Circuit explained that it would "artificially contort the determination of what is mandated by due process" to impose a "rigid distinction" between agencies of different sovereigns. 603 F.2d 566, 569-70 (5th Cir. 1979) (finding that when federal and state agents "pooled their investigative energies," knowledge belonging to the state agents must be imputed to the federal prosecutors); id. at 570 ("We have little difficulty in concluding that the state investigators functioned as agents of the federal government under the principles of agency law utilized in *Giglio*.") (citing Giglio v. United States, 405 U.S. 150, 154 (1972)); see also Commonwealth v. Lykus, 885 N.E. 2d 769, 783-83 (Mass. 2008) (holding that FBI agents' failure to produce an exculpatory report is imputed to state prosecutors).

Brady's obligation to divulge exculpatory information to the accused covers all members of the state's "prosecution team," including anyone acting

"on the government's behalf" in an investigation or prosecution. *See Kyles*, 514 U.S. at 437. So long as the exculpatory information is held by law enforcement personnel or another governmental agency that participated in the investigation, the prosecutor is obligated to seek out the information and produce it for the defense. *See Nelson*, 155 N.J. at 499 (quoting *Smith*, 50 F.3d at 824). *Brady* imposes on the prosecutor an affirmative "duty to learn of any favorable evidence known to the others acting on the government's behalf in the case, including the police." *Kyles*, 514 U.S. at 437.

This obligation under *Brady* extends beyond just the law enforcement agents under the prosecutor's direct supervisory authority. Even *State v*. *Washington*, upon which the State relies for its narrow view of discovery under Rule 3:13-3,²⁷ concedes that a prosecutor's "obligation to produce *exculpatory information*... is not limited to items within the possession, custody or control of the prosecutor," but rather "extends to documents of which it is actually or

²⁷ As the Appellant explains in his Supplemental Brief, the State's reliance on *State v. Washington* is misplaced for multiple reasons. *Washington* concerned whether a prosecutor was obligated to hand over to the defense a lab report in the hands of the State Police Lab that was not yet completed — once it was completed and sent to the county prosecutor, the prosecutor promptly shared it with the defense. *See Washington*, 453 N.J. Super. at 182. But perhaps most concerningly, *Washington* ignores that *Brady* imposes an *affirmative* obligation on prosecutors to seek out exculpatory material. If taken to its practical ends, *Washington*'s holding undermines *Brady* by communicating to prosecutors that their responsibilities end strictly where they lose their "supervisory authority." As explained *supra*, this is plainly not the case under *Brady*.

constructively aware, including documents held by other law enforcement personnel who are part of the prosecution team." 453 N.J. Super. 164, 184 (App. Div. 2018) (emphasis added) (internal quotation marks omitted) (citing *State v. Robertson*, 438 N.J. Super. 47, 69 (App. Div. 2014)). As the Appellant's Supplemental Brief already highlights, the prosecution team can include state forensic crime labs that do not necessarily "answer" to the prosecutor. *See* Appellant's Suppl. Br. at 45 (collecting cases); *see, e.g., McCormick v. Parker*, 821 F.3d 1240, 1247–48 (10th Cir. 2016); *Commonwealth v. Ware*, 27 N.E.3d 1204, 1212 (Mass. 2015); *State v. Davila*, 357 P.3d 636, 644 (Wash. 2015).

In fact, the New Jersey Attorney General's office explicitly recognizes that the "prosecution team" can include law enforcement agencies outside the purview of the New Jersey government. As they have previously explained, "[t]he 'prosecution team' . . . consists of everyone working on the State's behalf in a case. This includes all federal, state and local government officials, prosecutors, and investigative and law enforcement personnel directly involved in the investigation or prosecution of the criminal case."²⁸

No *per se* rule governs whether knowledge from a law enforcement agency of one state should be imputed to a prosecutor's office in a different

²⁸ Memorandum from Gurbir S. Grewal, New Jersey Attorney General, to Department of Law & Public Safety Personnel on *Disclosure of Exculpatory and Impeachment Evidence in Criminal Cases* (June 18, 2019) (Aa1).

state. See Antone, 603 F.2d at 570 (calling for a "case-by-case analysis of the extent of interaction and cooperation between the two governments"). Rather, many courts, including the Third Circuit Court of Appeals, have looked to three questions to evaluate the issue of cross-jurisdiction constructive knowledge: "(1) whether the party with knowledge of the information is acting on the government's 'behalf' or is under its 'control'; (2) the extent to which [the] governments are part of a 'team,' are participating in a 'joint investigation' or are sharing resources; and (3) whether the entity charged with constructive possession has 'ready access' to the evidence." United States v. Risha, 445 F.3d 298, 304 (3d Cir. 2006); see also Diallo v. State, 994 A.2d 820, 838 (Md. 2010) (using *Risha*'s analysis to decide whether state prosecutors were responsible for seeking Brady material when they sought the assistance of the federal State Department in checking a defendant's father's diplomatic status); United States v. Depiro, No. 10-CR-851 (DMC), 2013 WL 663303, at *12-*13 (D.N.J. Feb. 20, 2013) (applying the *Risha* factors to conclude that federal agents had constructive possession of Waterfront Commission records and were "involved in the investigative and prosecutorial planning" and ordering the federal government to provide exculpatory material). This is a fact-intensive inquiry in which there are no bright-line rules. See Risha, 445 F.3d at 305–06 (endorsing Antone's "case-by-case analysis" of whether to impute knowledge from one government to another and referring to the inquiry as a "fact-driven determination").

The first inquiry, whether the party with knowledge of the information is acting on the prosecutor's behalf, can be answered simply in the present case: because the West New York Police Department requested the NYPD's assistance to investigate the crime using the NYPD's facial recognition infrastructure, and the NYPD did so and provided the results back to the police department without objection, the NYPD acted on the prosecution's behalf. See, e.g., McCormick, 821 F.3d at 1247 (finding that a nurse conducting a medical exam "at the behest of" law enforcement was part of the prosecution team) (citing People v. Uribe, 76 Cal. Rptr. 3d. 829, 832 (Cal. Ct. App. 2008)); cf. Moon v. Head, 285 F.3d 1301, 1310 (11th Cir. 2002) (finding that because a murder investigation in Tennessee had been conducted independently of a related investigation in Georgia, potential *Brady* knowledge held by Tennessee investigators would not be imputed to the Georgia prosecutor).

The second inquiry asks courts to consider the extent of cooperation between the different sovereigns. *Risha*, 445 F.3d at 304. In general, police agencies, when providing ordinary investigative resources, are prototypical members of the "prosecution team" covered by the state prosecutor's constitutional obligation to seek out exculpatory information. *See, e.g., Kyles,* 514 U.S. at 437-38 (holding that the police officers who assist in an investigation fall within the prosecutor's area of responsibility to locate *Brady* material); Moldowan v. City of Warren, 578 F.3d 351, 378 (6th Cir. 2009) (citing Walker v. Lockhart, 763 F.2d 942, 958 (8th Cir. 1985) ("Police are treated as an arm of the prosecution for *Brady* purposes.")). In the present case, the West New York Police Department asked the NYPD to perform a classic investigative function—using the investigative tools at its disposal (*i.e.*, facial recognition), the NYPD sought out suspects that would allow the West New York Police Department to advance its case and, eventually, identify Mr. Arteaga as a potential suspect. The West New York Police Department did not ask the NYPD to merely produce material it already had in its possession, but to become active participants whose resources became indispensable to the prosecution of Mr. Arteaga, whether or not that information would eventually be introduced at trial.²⁹ And once again, NYPD obliged, establishing the requisite cooperation.

²⁹ The trial court explains that the facial recognition system's only contribution to the investigation was to provide the West New York Police Department "with an additional photograph to compile the six pack that was shown to the witness in this case." Appellant's MLA & App'x at 80. As demonstrated by the scope of the potential *Brady* material requested by the defense, that is not true. *See supra* Point II. At minimum, the facial recognition search did not merely provide additional photographs, but provided additional photographs of a specific person *presumed to be the suspect of the crime* and, indeed, *identified* a specific person.

Approached another way, if the West New York Police Department *itself* had the NYPD's facial recognition system in-house, there would be no question that the system would be subject to the same *Brady* disclosures requested of NYPD's system—the local police, an "arm of the state," are unquestionably within the scope of the prosecutor's *Brady* obligations in the course of investigating a crime. See Nelson, 155 N.J. at 519 (collecting cases where knowledge held by police investigators is imputed to prosecutors); see also, e.g., United States v. Morell, 524 F.2d 550, 555 (2d Cir. 1985) (holding that a prosecutor was responsible for *Brady* material held by a DEA agent where the agent had "participated actively in th[e] investigation"). When the NYPD analyst fulfills a core investigative function using NYPD on behalf of the West New York Police Department, it should be treated just the same for constitutional purposes.

Finally, the third *Risha* question asks whether the prosecutor would have "ready access" to the *Brady* material held by the putative member of the prosecution team. Of course, a major reason for the present dispute is that potential *Brady* material held by the NYPD is not necessarily in the direct control of HCPO. But given that the nature of the "prosecution team" under *Kyles* incorporates entities not within the direct authority of the prosecutor, a prosecutor will not always have direct control over *Brady* material. Thus, "ready access" must be understood more broadly. To that end, it is significant that Mr. Arteaga has not requested that the prosecutor undertake a "fishing expedition" within the NYPD's files. *Cf. Barnett v. Sup. Ct.*, 237 P.3d 980, 984 (Cal. 2010) (finding no *Brady* obligation where a defendant was seeking generalized, vague impeachment information). Rather, the defense has asked for specific material that the NYPD has access to, including material as simple as the name and manufacturer of the facial recognition software used, and as crucial to Mr. Arteaga's *Brady* rights as the full, detailed list of candidate matches and information about the procedure used by the human analyst. Appellant's MLA & App'x at 4.

Ultimately, Hudson County law enforcement brought the NYPD into the case on its behalf and asked for the NYPD's assistance with core investigative work to identify suspects. In the face of a request for specific, potential *Brady* material, the prosecutor must be expected to take on the responsibility of working with its law enforcement partners to fulfill that request. Requiring anything less would violate Mr. Arteaga's due process rights and would create a gaping loophole in *Brady* law: simply outsource the investigation to another state, then claim an inability to access that state's information.

B. Ongoing cooperation between law enforcement agencies requires the Court to recognize a rule protecting New Jerseyans' access to exculpatory information, particularly where advanced and untested surveillance tools are at issue.

Courts impose a duty on prosecutors to seek out exculpatory information from their law enforcement partners in part because it helps offset the advantage that prosecutors have over the defense. Dennis v. Sec'y, Pa. Dep't of Corr., 834 F.3d 263, 290 (3d Cir. 2016) (holding that because of *Brady*'s concern with the "unquestionable advantage" held by the government in criminal proceedings, Brady strongly encourages disclosure from the prosecutor rather than shift the burden on defense counsel by requiring some "quantum of diligence"); United States v. Osorio, 929 F.2d 753, 762 (1st Cir. 1991) ("[T]he prosecutor is duty bound to demand compliance with disclosure responsibilities by all relevant dimensions of the government."). Defendants have no reliable way of knowing what is undisclosed or its import-only the government and those it relies on have access to exculpatory material to evaluate it. Kyles, 514 U.S. at 437. Prosecutors must therefore take on the "consequent responsibility" of seeking out exculpatory information from any law enforcement agent working on the government's behalf. Id.

Hudson County law enforcement had a major advantage in its investigation of the present case—it was able to query the facial recognition systems of the entire State of New Jersey (via the New Jersey Regional Operations & Intelligence Center) and the largest city in the country. Mr. Arteaga's prosecution is not the first time that New Jersey–based law enforcement has relied upon the NYPD's facial recognition; on at least one notable occasion, the Woodbridge Police Department requested the NYPD's facial recognition help resulting in the *wrongful identification and arrest* of an individual.³⁰

The close proximity between New York and New Jersey law enforcement—not to mention existing *Brady* law—demands that the burden of protecting due process fall onto the prosecutor, since the prosecutor is the one who will have the regular contact and means to effect cooperation. *Cf. Lykus*, 885 N.E.2d at 782 (explaining that law enforcement cooperation in "dual sovereign situations" can be common enough to justify placing the burden of securing discovery cooperation from the non-state law enforcement agents on the state prosecutor rather than the defendant) (citing *Commonwealth v. Liebman*, 400 N.E.2d 842, 844 (Mass. 1980)). This is in line with the New Jersey Attorney General's own policies: a 2019 directive on criminal discovery charges investigative employees with taking a "proactive[]" role in the discovery process by "notify[ing] the prosecuting authority (or confirm that the prosecuting

³⁰ See Isabella Cheng, New Jersey Police Disregarded Face Rec Use Policy, Sued for Wrongful Arrest, IPVM (Mar. 22, 2022) (Aa1).

authority is aware) [of] any potential *Brady* or *Giglio* material known to the investigative employee."³¹ It would undermine the Attorney General's own policy to let the prosecutor off the hook when *Brady* material is in the hands of out-of-state law enforcement agencies, when it is the prosecutor who is in the best position to ensure the discovery cooperation of its regular law enforcement partners located just across the Hudson River.

This obligation to ensure that law enforcement cannot use "investigative outsourcing" to shield *Brady* material from disclosure is especially strong where the exculpatory information sought is about flawed and problematic investigative tools that require a high degree of technical sophistication to evaluate. The prosecution's case would not exist without the NYPD's facial recognition system. Particularly given that system's novelty and its potential for error, the defense requires a "meaningful opportunity to examine it." *Pickett*, 466 N.J. Super. at 323–24 ("Courts must endeavor to understand new technology ... and allow the defense a meaningful opportunity to examine it.").

³¹N.J. Att'y Gen. Law Enf't Directive No. 2019-6, *Establishing County Policies* to Comply with Brady v. Maryland and Giglio v. United States 7 (Dec. 4, 2019) (Aa2).

CONCLUSION

For the reasons set forth above, the Court should grant the motion to compel in its entirety and require the prosecution to disclose all FRT evidence sought.

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Respectfully submitted,

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