From: fva-list-bounces@lists.umanitoba.ca on behalf of Payne, Denell <dmpayne@riversidesheriff.org>
Sent: Thursday, August 16, 2018 10:50 AM
To: Forensic Video Analysis
Subject: Re: [FVA-List] What is your Job Title?
Attachments: Untitled attachment 00219.txt

I know right?! When the department first started using it full time a few years back, I was extremely interested in it and have had a lot of success with it. They are looking to reclassify my position to make it official. The video class and emails from the list have really helped with looking at videos for the best quality stills to use for facial recognition.

Denell Payne, MPA
Fingerprint Technician II
Riverside County Sheriff / CAL-ID Unit
Desk: 951-955-2751
Main Line: 951-955-2740

From: David Spreadborough [mailto:davidspreadborough@gmail.com]
Sent: Wednesday, August 15, 2018 10:45 PM
To: Forensic Video Analysis <fva-list@lists.umanitoba.ca>
Subject: Re: [FVA-List] What is your Job Title?

Now that's a bit of a flip!

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Fingerprint Technician II

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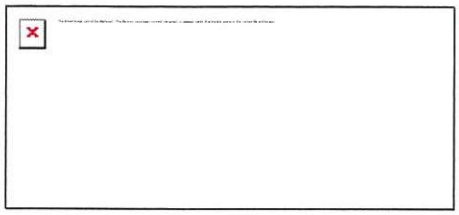

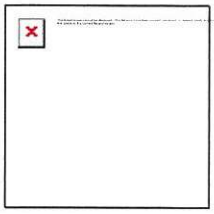

From: Gonsales, Kevin [mailto:KGonsales@UMPD.UMD.EDU]
Sent: Wednesday, August 15, 2018 2:47 PM
To: 'Forensic Video Analysis' <fva-list@lists.umanitoba.ca>
Subject: Re: [FVA-List] What is your Job Title?

We retain our original job titles as listed through the University HR because no current titles exist for the role. We just add our certification levels in our email signatures to inform people of what we do.

Kevin Gonsales

PCO

University of Maryland Police Department

From: Lewandowski, David <DLewandowski@RivCoDA.org>
Sent: Wednesday, August 15, 2018 5:19 PM
To: 'Forensic Video Analysis' <fva-list@lists.umanitoba.ca>
Subject: Re: [FVA-List] What is your Job Title?

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This sounds like some guy that sets up projectors and mics for a press conference.

David Lewandowski

Riverside County District Attorney's Office

From: fva-list-bounces@lists.umanitoba.ca <fva-list-bounces@lists.umanitoba.ca> **On Behalf Of** DANIEL Rhiannon D
Sent: Tuesday, September 26, 2017 7:05 AM
To: Forensic Video Analysis <fva-list@lists.umanitoba.ca>
Subject: Re: [FVA-List] What is your Job Title?

In Oregon we keep it very general. At the state lab they are Forensic Scientists, in our municipal lab we are Forensic Analysts, this is regardless of specialty. Internally at our lab we used to be DME Analysists but are now the Video Imaging Technology Analysts (new ANAB standards) but the job titles with HR are all the same whether you do latent prints or video.

Rhiannon Daniel-Demings

Forensic Analyst
Eugene Police Department
Forensic Evidence Unit
Desk 541-682-2803
rhiannon.d.daniel@ci.eugene.or.us

Protect. Serve. Care.

From: fva-list-bounces@lists.umanitoba.ca [mailto:fva-list-bounces@lists.umanitoba.ca] **On Behalf Of** David Spreadborough
Sent: Monday, September 25, 2017 1:43 AM
To: Forensic Video Analysis <fva-list@lists.umanitoba.ca>
Subject: [FVA-List] What is your Job Title?

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Anyways,...

What is your Official Job Title?

Please reply so I can collate this information and myself and Ed Baker will be looking at this during the LEVA Conf.

Thanks Spready

--

David Spreadborough

Certified Forensic Video Analyst

www.forensicvideo.training
www.spreadys.com

+44 7477 544045

For all Amped Software Training Enquiries

david.spreadborough@ampedsoftware.com

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From: fva-list-bounces@lists.umanitoba.ca on behalf of Appel Tim <Tim.Appel@rcgov.org>
Sent: Friday, February 15, 2019 3:51 PM
To: Forensic Video Analysis
Subject: Re: [FVA-List] What is your Job Title?
Attachments: Untitled attachment 00224.txt

Thank you, Richard, I appreciate your help very much!

From: fva-list-bounces@lists.umanitoba.ca <fva-list-bounces@lists.umanitoba.ca> **On Behalf Of** Vorder Bruegge, Richard W. (OTD) (FBI)
Sent: Friday, February 15, 2019 1:30 PM
To: Forensic Video Analysis <fva-list@lists.umanitoba.ca>
Subject: Re: [FVA-List] What is your Job Title?

Tim,

If your agency uses an FR system or is linked to the FBI's Next Generation Identification system (through the Criminal Justice Information Services Wide Area Network - CJIS-WAN), you can get training in facial comparison and identification through our CJIS Division.

Follow this link to find out more:
https://www.fbi.gov/services/cjis/fingerprints-and-other-biometrics/biometric-and-criminal-history-record-training

There are private organizations offering training, too, but I am prevented from making recommendations (pro or con) based on professional ethics regulations.

Richard W. Vorder Bruegge
Senior Physical Scientist
FBI - OTD - TODB
Building 27958A, Pod E
Quantico, VA 22135
(703) 985-1192

From: fva-list-bounces@lists.umanitoba.ca <fva-list-bounces@lists.umanitoba.ca> on behalf of Appel Tim <Tim.Appel@rcgov.org>
Sent: Friday, February 15, 2019 2:16 PM
To: Forensic Video Analysis
Subject: Re: [FVA-List] What is your Job Title?

I'm looking for someone who can inform me about the best training courses in facial recognition and software. I would be very grateful for any assistance you can provide. Thanks!

Tim Appel, LCFVT | Media Specialist
LEVA Certified Forensic Video Technician

Rapid City Police Department | O: 605.394.6033
Tim.Appel@rcgov.org | RapidCityPolice.org

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From: fva-list-bounces@lists.umanitoba.ca on behalf of George Reis <reis@imagingforensics.com>
Sent: Saturday, February 16, 2019 10:58 AM
To: Forensic Video Analysis
Subject: Re: [FVA-List] What is your Job Title?
Attachments: Untitled attachment 00023.txt

If you are looking for Facial Comparison training (as opposed to Facial Recognition training), you might try Ideal Innovations <https://www.idealinnovations.com>. I haven't had their training yet, but keep wanting to attend. There has been some facial ID training at the last few IAI Conferences also.

G

--
George Reis, CFPh, CFVA
Imaging Forensics <http://www.imagingforensics.com>
Forensic photography & photographic and video analysis.
Consulting, training & litigation support.
714-775-3120

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Rapid City Police Department | O: 605.394.6033
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<image001.jpg>
<image002.jpg><image003.jpg><image004.jpg><image005.jpg><image006.jpg>

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Desk 541-682-2803
rhiannon.d.daniel@ci.eugene.or.us

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Subject: [FVA-List] What is your Job Title?

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From: fva-list-bounces@lists.umanitoba.ca on behalf of Vishal Pawade <vishal024@gmail.com>
Sent: Monday, March 21, 2016 2:38 AM
To: Forensic Video Analysis
Subject: Re: [FVA-List] Facial Recognition software
Attachments: Untitled attachment 00264.txt

Thanks Kate !!!

On Fri, Mar 18, 2016 at 1:15 AM, WOOLLEY, Kathryn <Kathryn.WOOLLEY@vpd.ca> wrote:

Hi Vishal!

I did a quick search online and came up with FACES 4.0 Criminal Investigation Software. I have no experience or knowledge of this program but you can read more about it on their website – www.facesid.com/products_faces_le.html

Kate Woolley
Forensic Video Analyst
Vancouver Police Department
3585 Graveley Street, Vancouver B.C. V5K 5J5

kathryn.woolley@vpd.ca | ph: 604-717-3093

From: fva-list-bounces@lists.umanitoba.ca [mailto:fva-list-bounces@lists.umanitoba.ca] **On Behalf Of** Vishal Pawade
Sent: Wednesday, March 16, 2016 10:43 PM
To: Forensic Video Analysis
Subject: [FVA-List] Facial Recognition software

Hi,

Can anyone tell me which is this software?

Specs are attached herewith.

1. Facial Capturing form different media and Processing
2. Creation of photo like composites
3. Generation of numeric code for every composite
4. Tone hair colour, side to side hair flip
5. Data Generation of Facial markings: scars, moles, piercing, tattoos
6. Facility for improvement of Time progression
7. Detachable hats and headwear facility
8. Ability to export composite as JPEG file and in other image formats
9. Matching-Side by side show/ comparison capability
10. Improved zooming and positions tools
11. Runs on Window Based computer system
12. Analyze the linear images
13. Full or partial face identification
14. Capable to detect and register the numerous characteristic of each face
15. Capable to store, retrieve and compose the facial features from the database and display matching score

Regards,

Vishal S. Pawade,

Digital Forensic Analyst

Skype: vishal.pawade

Mobile: +919773183454

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Having troubles accessing the FTP site? Email ftpinfo@fvaftp.com

---

--
Vishal S. Pawade,
Digital Forensic Analyst
Skype: vishal.pawade
Mobile: +919773183454

From: fva-list-bounces@lists.umanitoba.ca on behalf of Vishal Pawade <vishal024@gmail.com>
Sent: Tuesday, June 21, 2016 12:35 AM
To: Forensic Video Analysis
Subject: Re: [FVA-List] Facial Recognition Software
Attachments: Untitled attachment 00204.txt

Thanks Sam

On 21 Jun 2016 6:40 am, "Sam Kai Yuan" <samkaiyuan@gmail.com> wrote:
The last benchmarking test for Face Recognition was performed in 2013 under Face Recognition Vendor Test (FRVT) 2013

See report at
http://biometrics.nist.gov/cs_links/face/frvt/frvt2013/NIST_8009.pdf

There were several outstanding facial recognition engines as quoted on page 25 of the report
"At rank 50, the NEC result is 0.023 with Toshiba at 0.049 and Morpho at 0.05"

Hope it helps.

Warm Regards,
Sam Kai Yuan

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From: fva-list-bounces@lists.umanitoba.ca on behalf of Bradley.Barkhurst@com.state.oh.us
Sent: Friday, February 1, 2019 1:58 PM
To: Forensic Video Analysis
Subject: Re: [FVA-List] Facial Recognition Software
Attachments: Untitled attachment 00063.txt

Hi Ray,

I had tested some facial recognition software several years ago and had recorded a great facial view of myself with a poor-quality CCTV system. I ran the photo in the FR software and my known photo did not even come up within the top 100 candidates. I also ran an id quality photo of me with glasses and without glasses. I was told by the manufacturer that glasses would not make a difference. Well it did.

An investigator did give me an id photo of a known individual who had a history of using fake identifications. I ran the known image in the system and the top unknown candidate that came up sure did look a lot like the known individual, facial mole and everything. Although, I don't know for sure if the unknown and known individual were the same, it at least gave the investigators something new to look into.

If you have a chance to test out some FR software, do a lot of experiments and figure out its strengths and weaknesses. Similar to looking at a book of mug shots, FR software is an investigative tool that can be used as a step to assist an investigator, but in no way be something that should be used to solely convict someone of a crime. The investigator still needs to get out there and investigate.

Bradley Barkhurst
Forensic Specialist Supervisor
Ohio Department of Commerce
Division of State Fire Marshal
8895 E. Main St. Reynoldsburg OH 43068
614-752-7147
www.com.ohio.gov

From: fva-list-bounces@lists.umanitoba.ca <fva-list-bounces@lists.umanitoba.ca> **On Behalf Of** Donohoe, Stephen
Sent: Friday, February 01, 2019 1:08 PM
To: 'Forensic Video Analysis' <fva-list@lists.umanitoba.ca>
Subject: Re: [FVA-List] Facial Recognition Software

Good day Ray,

I understand that Toronto Police Service are using facial recognition software?

After I was asked to produce images from a bank robbery and I asked the question "What are the requirements for use on their system?"

This was the response from Steven York (Biometrics Section Supervisor)

"It really depends on the subject.

Higher resolution is much better, but if the subject has some very distinguishing features (unusual hairstyle, beard, tattoo etc.) then we might have success with a lower resolution image.

As a general rule, we would like about 20 pixels between the eyes, or more if possible.

Please avoid scanning printed images or taking photos of computer screens.

Only send original images if possible.

The system also works best if the subject is looking straight at the camera and is expressionless.

The further away from this, the lower chance of success we will find.

It is also very useful to get profile photos to assist with comparisons after the system identifies a candidate"

I have no idea what their (Toronto Police Service) success rate is – and I would love to go to a presentation about this very topic. It's been in the pipeline for decades. I have a friend who is a Forensic Pathologist and he spent years working on this very subject. From what he told me, everything hinges on image quality and image content of course. I will contact him and ask about the latest UK stance.

I hope that helps?

Take care,

Steve

Stephen Donohoe
Halton Regional Police Service
Technological Crime Unit
Forensic Video Analyst
(905) 465-8996
Stephen.Donohoe@HaltonPolice.ca
Halton Regional Police Service

From: fva-list-bounces@lists.umanitoba.ca [mailto:fva-list-bounces@lists.umanitoba.ca] **On Behalf Of** Pabuaya, Ray
Sent: 2019 February 01 11:35 AM
To: 'Forensic Video Analysis'
Subject: [FVA-List] Facial Recognition Software

I was just wondering what your opinions are with Facial Recognition (Identification) software. Is this technology still in the early stages? Or does it still need a lot of work. And how does it hold up in court if used in a criminal investigation?

An investigator claims that a retail store, here in the city, has a product called "FaceFirst" where it apparently can alert store security if it detects a match of someone who is flagged as a banned customer (ie shoplifter) before they enter the store. They were contemplating using the product to compare the face of an accused to a number of fake ID cards in a fraud investigation. I just don't know enough about this subject, and maybe a little skeptical about it right now.

Ray Pabuaya #2847, CFVT
Constable
Division #42, Forensic Imaging Unit
Winnipeg Police Service
Winnipeg, Manitoba CANADA

Email: rpabuaya@winnipeg.ca

From: fva-list-bounces@lists.umanitoba.ca on behalf of Donohoe, Stephen <Stephen.Donohoe@haltonpolice.ca>
Sent: Friday, February 1, 2019 1:08 PM
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Attachments: Stephen Donohoe.vcf; Untitled attachment 00058.txt

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Email: rpabuaya@winnipeg.ca

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Sent: Friday, February 1, 2019 2:05 PM
To: Forensic Video Analysis
Subject: Re: [FVA-List] Facial Recognition Software
Attachments: Untitled attachment 00028.txt

Well said Brad. FR is an investigative tool. In Alberta, we have a specific policy that prohibits use of FR evidence for any other purpose.

Jonathan W. Hak, Q.C.
Legal Instructor
Barrister and Solicitor
Expert Witness Testimony Course | Courtroom Testimony for Investigators Course
Based out of Calgary, Alberta and The Hague, The Netherlands
email: jonathan@jonathanhak.com
website: www.jonathanhak.com

On Feb 1, 2019, at 11:57 AM, Bradley.Barkhurst@com.state.oh.us wrote:

Hi Ray,

I had tested some facial recognition software several years ago and had recorded a great facial view of myself with a poor-quality CCTV system. I ran the photo in the FR software and my known photo did not even come up within the top 100 candidates. I also ran an id quality photo of me with glasses and without glasses. I was told by the manufacturer that glasses would not make a difference. Well it did.

An investigator did give me an id photo of a known individual who had a history of using fake identifications. I ran the known image in the system and the top unknown candidate that came up sure did look a lot like the known individual, facial mole and everything. Although, I don't know for sure if the unknown and known individual were the same, it at least gave the investigators something new to look into.

If you have a chance to test out some FR software, do a lot of experiments and figure out its strengths and weaknesses. Similar to looking at a book of mug shots, FR software is an investigative tool that can be used as a step to assist an investigator, but in no way be something that should be used to solely convict someone of a crime. The investigator still needs to get out there and investigate.

<image003.jpg> Bradley Barkhurst
Forensic Specialist Supervisor
Ohio Department of Commerce
Division of State Fire Marshal
8895 E. Main St. Reynoldsburg OH 43068
614-752-7147
www.com.ohio.gov

From: fva-list-bounces@lists.umanitoba.ca <fva-list-bounces@lists.umanitoba.ca> **On Behalf Of** Donohoe, Stephen
Sent: Friday, February 01, 2019 1:08 PM
To: 'Forensic Video Analysis' <fva-list@lists.umanitoba.ca>
Subject: Re: [FVA-List] Facial Recognition Software

Good day Ray,

I understand that Toronto Police Service are using facial recognition software?

After I was asked to produce images from a bank robbery and I asked the question "What are the requirements for use on their system?"

This was the response from Steven York (Biometrics Section Supervisor)

"It really depends on the subject.

Higher resolution is much better, but if the subject has some very distinguishing features (unusual hairstyle, beard, tattoo etc.) then we might have success with a lower resolution image.

As a general rule, we would like about 20 pixels between the eyes, or more if possible.

Please avoid scanning printed images or taking photos of computer screens.

Only send original images if possible.

The system also works best if the subject is looking straight at the camera and is expressionless.

The further away from this, the lower chance of success we will find.

It is also very useful to get profile photos to assist with comparisons after the system identifies a candidate"

I have no idea what their (Toronto Police Service) success rate is – and I would love to go to a presentation about this very topic. It's been in the pipeline for decades. I have a friend who is a Forensic Pathologist and he spent years working on this very subject. From what he told me, everything hinges on image quality and image content of course. I will contact him and ask about the latest UK stance.

I hope that helps?

Take care,

Steve

<image005.jpg>

From: fva-list-bounces@lists.umanitoba.ca [mailto:fva-list-bounces@lists.umanitoba.ca] **On Behalf Of** Pabuaya, Ray
Sent: 2019 February 01 11:35 AM
To: 'Forensic Video Analysis'
Subject: [FVA-List] Facial Recognition Software

I was just wondering what your opinions are with Facial Recognition (Identification) software. Is this technology still in the early stages? Or does it still need a lot of work. And how does it hold up in court if used in a criminal investigation?

An investigator claims that a retail store, here in the city, has a product called "FaceFirst" where it apparently can alert store security if it detects a match of someone who is flagged as a banned customer (ie shoplifter) before they enter the store. They were contemplating using the product to compare the face of an accused to a number of fake ID cards in a fraud investigation. I just don't know enough about this subject, and maybe a little skeptical about it right now.

<image006.jpg>

Ray Pabuaya #2847, CFVT
Constable
Division #42, Forensic Imaging Unit
Winnipeg Police Service
Winnipeg, Manitoba CANADA

Email: rpabuaya@winnipeg.ca

set authenticate password
set delivery off

Substitute the password that gets emailed to you once a month for the word password.

Same instructions to turn back on, but substitute the word on for off.

From: fva-list-bounces@lists.umanitoba.ca on behalf of Chris Russ <jcr6@reindeergraphics.com>
Sent: Friday, February 1, 2019 3:34 PM
To: Forensic Video Analysis
Cc: Chris Russ
Subject: Re: [FVA-List] Facial Recognition Software
Attachments: Untitled attachment 00033.txt

I wrote something called X-Loupe for another company. (To my knowledge it hasn't been updated in several years - I'm not even sure if it is still for sale.)

It was used for side-by-side comparisons between two or more faces (or really any two things: prints, tool marks, etc). The workflow was to align the faces based upon eye positions and then compare the various relative distance metrics within each: eyes/frenulum, lips, etc. Then the examiner would further look for equivalent (or non-equivalent) minutia between the two. (Richard Vorder Bruegge was very involved.)

One of the things that struck me the most was some examiners' process of flipping the faces upside down when looking at minutia. This helped because you don't try to recognize faces when they're upside down and you can then concentrate on the minutia. (moles, scars, etc)

Now, the automatic DNN (Deep Neural Network) methods are really interesting, but to my mind there are a lot of problems, not the least of which is the susceptibility of a DNN to learn the wrong thing and not be able to explain why two things match or don't. Lighting, image quality, up-stream compression, color spaces, pose, size of the corpus, and amazingly BACKGROUND all seem to play a big role in a DNN's ability to match or find similar faces. I think that's why the promise from small datasets is large, but when applied to large ones they don't do so well.

All of this being said, I would push for the use of two different terms: one for side-by-side **analytical comparison** where you say why X is similar/same as Y (or isn't), and the other where the machine searches through haystacks doing needle **recognition**. (finding candidates for analytical comparison)

Didn't know about the study — Thanks Richard. Now I know what I'm reading during the Super Bowl.

-Chris

reindeer graphics

Chris Russ
phone: +1.919.342.0209
email: jcr6@reindeergraphics.com
website: www.reindeergraphics.com
P O Box 2281
Asheville, NC 28802

On Feb 1, 2019, at 2:18 PM, Thompson, Clinton <Clinton.Thompson@raleighnc.gov> wrote:

I participated in that study – didn't realize they had published it yet. Thanks Dr. Vorder Bruegge!

Detective Clint Thompson
Raleigh Police Department
Forensic Video Analyst
Facial Recognition Examiner
919-278-6388
Fax 919-996-7198

From: fva-list-bounces@lists.umanitoba.ca [mailto:fva-list-bounces@lists.umanitoba.ca] **On Behalf Of** Vorder Bruegge, Richard W. (OTD) (FBI)
Sent: Friday, February 01, 2019 2:11 PM
To: 'Forensic Video Analysis'
Subject: Re: [FVA-List] Facial Recognition Software

I am having the day from hell, so I don't have a lot of time to go into detail, but I have to jump in here.
If you are testifying to comparisons and you don't know about this study... you should.
See this link: https://www.pnas.org/content/115/24/6171

This study showed that facial comparison examiners rock – Daubert quality study to demonstrate that one-to-one image comparison of faces is accurate.

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The algorithms developed since 2016 forward use deep learning which was not available before that. Total game change.

(I hope this message passes my double-secret-probation status on the List and makes it out...)
Richard

From: fva-list-bounces@lists.umanitoba.ca [mailto:fva-list-bounces@lists.umanitoba.ca] **On Behalf Of** Pabuaya, Ray
Sent: Friday, February 01, 2019 11:35 AM
To: 'Forensic Video Analysis' <fva-list@lists.umanitoba.ca>
Subject: [FVA-List] Facial Recognition Software

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<image001.jpg>

Ray Pabuaya #2847, CFVT
Constable
Division #42, Forensic Imaging Unit
Winnipeg Police Service
Winnipeg, Manitoba CANADA

Email: rpabuaya@winnipeg.ca

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From: fva-list-bounces@lists.umanitoba.ca on behalf of Vorder Bruegge, Richard W. (OTD) (FBI) <rwvorderbruegge@fbi.gov>
Sent: Friday, February 1, 2019 7:55 PM
To: FVA
Cc: Chris Russ
Subject: Re: [FVA-List] Facial Recognition Software
Attachments: Untitled attachment 00038.txt

Now that I've got a little more time...

A key aspect of the study I showed you all was that the performance of the humans versus the algorithms was somewhat disjointed. By that I mean the two "groups" (humans vs machine) did not get the same answers on average, but fusing them gave a better result than either one alone.

This indicates that the algorithms are "seeing" something different from the humans. But what?

One of the critical issues with any AI process will be identifying what they are "seeing" to make their decisions. One of the JANUS developers (JANUS being the IARPA program that developed algorithms used in the paper) incorporated a heat map approach that showed for any given face those parts that the algorithm found to be most "discriminating" i.e., what made that face stand out from the crowd.

This sort of "flag" could help human examiners identify features worth a second look, so I've encouraged the research community to keep up this line of inquiry.

One last note on Chris' suggested terminology...when I teach facial comparison I start with that dichotomy - "recognition" refers to the computer algorithm, "identification" refers to the human/manual process.

Richard W. Vorder Bruegge
Senior Physical Scientist
FBI-OTD
Building 27958A, Pod E
Quantico, VA 22135
(703) 985-1192

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reindeer graphics

Chris Russ
phone: +1.919.342.0209
email: jcr6@reindeergraphics.com
website: www.reindeergraphics.com
P O Box 2281
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Richard

From: fva-list-bounces@lists.umanitoba.ca [mailto:fva-list-bounces@lists.umanitoba.ca] **On Behalf Of** Pabuaya, Ray
Sent: Friday, February 01, 2019 11:35 AM
To: 'Forensic Video Analysis' <fva-list@lists.umanitoba.ca>
Subject: [FVA-List] Facial Recognition Software

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<image001.jpg>

Ray Pabuaya #2847, CFVT
Constable
Division #42, Forensic Imaging Unit
Winnipeg Police Service
Winnipeg, Manitoba CANADA

Email: rpabuaya@winnipeg.ca

Same instructions to turn back on, but substitute the word on for off.

From: fva-list-bounces@lists.umanitoba.ca on behalf of Mark Davies FVA <markjosephdaviesfva@gmail.com>
Sent: Friday, February 1, 2019 12:27 PM
To: Forensic Video Analysis
Subject: Re: [FVA-List] Facial Recognition Software
Attachments: Untitled attachment 00043.txt

With excellent "controlled situation" source images most decent facial recognition software will give you a starter for ten.... then the human element is still paramount to it's success. Most, even very high quality, common CCTV imagery due to the nature of camera placement isn't good enough for such AI technology to work alone.

Mark Davies

On 1 Feb 2019, at 16:34, Pabuaya, Ray <rpabuaya@winnipeg.ca> wrote:

> I was just wondering what your opinions are with Facial Recognition (Identification) software. Is this technology still in the early stages? Or does it still need a lot of work. And how does it hold up in court if used in a criminal investigation?
>
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>
> <image001.jpg>
>
> **Ray Pabuaya #2847, CFVT**
> Constable
> Division #42, Forensic Imaging Unit
> Winnipeg Police Service
> Winnipeg, Manitoba CANADA
>
> Email: rpabuaya@winnipeg.ca

Put the following in the body of the message:

set authenticate password
set delivery off

Substitute the password that gets emailed to you once a month for the word password.

Same instructions to turn back on, but substitute the word on for off.

From: fva-list-bounces@lists.umanitoba.ca on behalf of Kimbrell, Melissa <Melissa.Kimbrell@dps.texas.gov>
Sent: Tuesday, March 12, 2019 9:17 AM
To: Forensic Video Analysis
Subject: [FVA-List] ProHawk
Attachments: ProHawk Executive Summary (2018).pdf; Untitled attachment 00053.txt

Hey all,

The top of my chain of command has asked me to look into the attached "instant visual clarity" software. Does anyone out there use ProHawk?

Any insight will be appreciated!

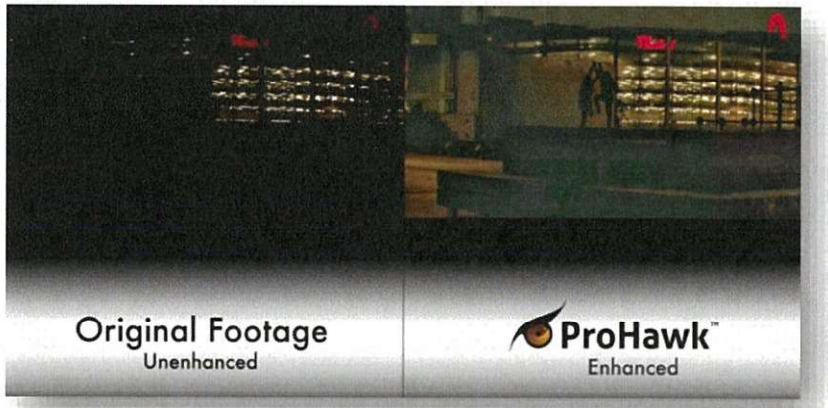
Thanks,

Melissa (Melnick) Kimbrell, CFVT, CCSA
Forensic Scientist
Digital & Multimedia Evidence
Crime Laboratory
Texas Department of Public Safety
5800 Guadalupe St., Building U
Austin, Texas 78752
512-424-2105 ext. 3161

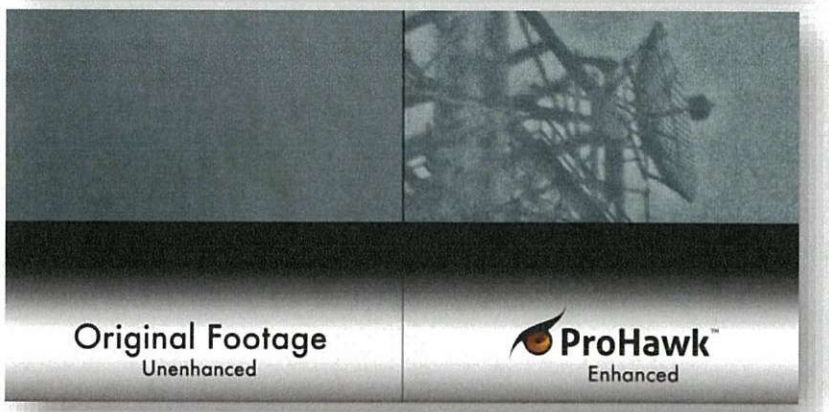
Overview

The problem facing many strategic, high growth markets that leverage real time video is no optical system or camera is optimized to deliver high-quality actionable video in every environmental condition. The targeted market that Prohawk Technology Group's Instant Visual Clarity™ technology is uniquely positioned to service grows from $593 Billion in 2018 to $3.7 Trillion by 2027, and includes: Security & Surveillance, Artificial Intelligence, Computer and Machine Vision, Autonomous Vehicles, Urban Traffic Monitoring, Smart Cities and Video Analytics. The quality of the video captured from all optical systems is compromised by a variety of factors. Even the most advanced wide-dynamic range, high-definition, thermal or infrared cameras are restricted by optical physics and environmental challenges. The following conditions have the most significant effects on capturing high quality, actionable video:

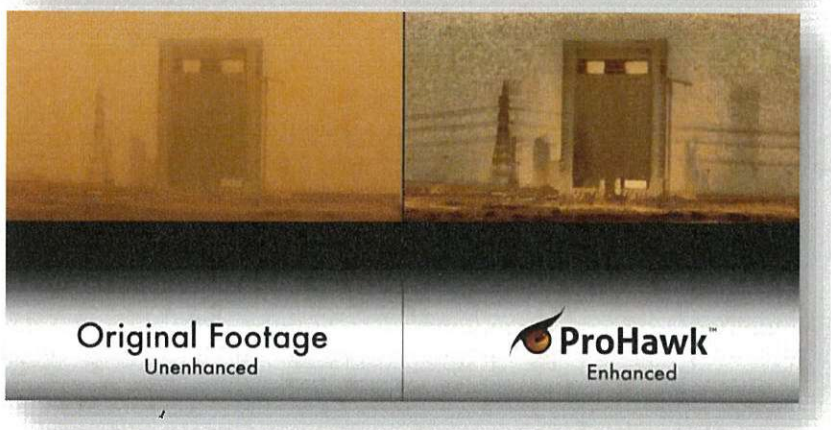
Adverse Lighting caused by night, low light, backlight and extreme contrast like sun glare, headlights and infrared imaging are challenging environments that distress the quality of video. These conditions significantly impact the image quality taken by all camera systems, rendering them ineffective and incapable of delivering meaningful and actionable video.



Extreme Weather conditions impact the visibility of all camera systems. The image quality from cameras operated outdoors can be severely compromised by the effects of severe rain, snow, dense fog, mist or haze removing any chance of capturing actionable data.



Airborne Particles in the environment can also negatively impact the quality of the imagery delivered by the camera. Representative challenges in this area include the impact of sandstorms, smoke, smog, dirt and dust, all of which degrade visibility and the camera's ability to capture quality video.



There is a need for ProHawk Instant Visual Clarity software solutions which can be easily integrated into systems throughout our identified markets.

Markets

The demand for high quality, actionable, real-time video is rapidly increasing throughout global markets. Real-time, actionable video requirements are expanding across all industries including: Government, Military, Law Enforcement, Healthcare, Maritime, Industrial, Transportation, Agriculture, Retail, Energy and Public Utilities. A variety of industry specific applications leveraging real time video range from Security & Surveillance, Artificial Intelligence, Computer Vision and Machine Vision to Autonomous Vehicles, Urban Traffic Monitoring, Smart Cities and Video Analytics.

Governments and industries are committing significant additional resources to Security & Surveillance. Governments across the world are investing in high quality Video Surveillance Systems as part of their border control, security and anti-terrorism infrastructure. All Security & Surveillance applications can instantly benefit from ProHawk technology and the instantaneous visual clarity it provides. This market was valued at $30.37 Billion in 2016 and is forecasted to increase by a 15.4% Compound Annual Growth Rate (CAGR), through 2022, when it will be valued at over $75.64 Billion.

The global autonomous vehicle market is expected to grow at a CAGR of 39.6% reaching $126.8 Billion by 2027. Autonomous vehicles employ embedded software, sensors, and communications systems trending towards advanced Artificial Intelligence (AI) technology. True level 5 autonomous driving, full autonomy in ***any and all conditions***, will not be achieved without ProHawk technology. Elon Musk, CEO of a leading autonomous vehicle company, Tesla, has said publicly, "Once you solve cameras for vision, autonomy is solved: if you don't solve vision, it's not solved...You can absolutely be superhuman with cameras."

Artificial Intelligence (AI) is intelligence demonstrated by machines: any device that perceives its environment and takes action that maximizes its chance of successfully attaining its goal. AI problems include reasoning, planning, learning, perception, and the ability to move and manipulate objects. For example, Artificial Intelligence enables autonomous planning or calculations for robotic systems to maneuver through an environment. Information about the environment is being provided by computer vision systems, acting as a vision sensor for the robot. Computer Vision addresses how computers can be utilized to derive a high-level understanding (from digital images or video) to automate tasks and enhance the performance of the organic, human visual system and analytical process.

Computer Vision is concerned with the theory behind artificial systems that extract information from images. Computer vision systems leveraging ProHawk can extract substantially better data for scene reconstruction, event detection, video tracking, object recognition, 3D pose estimation, learning, indexing and motion estimation. According to a new market survey by Markets and Markets, the Computer Vision Market is expected to be valued at USD $11.94 Billion in 2018 and is likely to reach USD $17.38 Billion by 2023, at a CAGR of 7.80% between 2018 and 2023. The growth of the market is mainly driven by the increasing adoption of computer vision in autonomous and semiautonomous vehicles, military, industrial and consumer drones; and the rising adoption of Industry 4.0 manufacturing automation and data exchange.

Machine Vision is the technology and methods used to provide imaging-based analysis for applications that include: automated inspection, process control, and robotic guidance, usually in industry. The global Machine Vision Market is expected to reach USD $19.22 Billion by 2025, at a CAGR of 8.5%, according to a new report by Grand View Research, Inc. The increasing adoption of robots across industrial sectors is leading toward the application of vision-guided robotic systems. Industrial verticals, such as automotive, pharmaceutical, packaging, and food & beverage, are prominent sectors where robotic systems are used, eventually fueling the demand for machine vision systems.

Successful implementation of smart city projects heavily depends on technologies – data communications, cloud, mobility, and sensors that seamlessly tie together to form an IoT ecosystem. Typical smart city projects target traffic flow optimization, public safety violence eradication, efficient street light utilization, and parking. Smart cities are enabled by smart cameras that will make sense of what they see in real time. ProHawk provides the underlying technology that will put the Smart in cities. The smart cities market is expected to grow at a 23.1% CAGR from $424.68 Billion in 2017 to 1.2 Trillion by 2022.

Governments, industries, commercial organizations all use advanced video analytics for security and to improve operational efficiency. High quality actionable video is essential to key, common video analytics uses including License Plate Recognition, Object Recognition and Facial Recognition. ProHawk algorithms provide a critical, foundational technology, which can enable exponential value recognition for applications in this rapidly developing market. The video analytics market is valued at $2.61 Billion in 2016 and is expected to grow by 33.7% CAGR through 2022 to $11.17 Billion.

Software, Embedded & Service Solutions

ProHawk provides real-time video enhancement technology that provides unparalleled Instant Visual Clarity in compromised video due to lighting, weather, particulate matter, and environmental conditions. ProHawk unlocks the highest quality enhancements with ultra-low latency, enabling users or Computer Vision enabled AI systems to analyze optimized, actionable video in real-time.

The most critical characteristic in a real-time video enhancement solution is the latency of the system. This is the time delay between a video frame entering the system, video enhancement(s) being applied to the video frame, and receiving the enhanced, clarified video frame. Since real-time video monitoring requires human observation or AI based analytics systems with computer vision, perceptible latency has a strong effect on user satisfaction and the usability of the system. This requirement demonstrates the distinct advantage that ProHawk solutions provide with a latency of less than 20 µSecs. This level of performance enables high-speed mobile applications such as autonomous vehicles, autonomous aircraft, autonomous water craft, urban traffic monitoring, smart cities, and military use cases.

ProHawk's patented Detail Enhancement Filter (DEF) is the core enhancement algorithm that achieves high image sensitivity. DEF is the only real-time video enhancement platform that concurrently processes six distinct enhancements algorithms, improving visual clarify and reducing the need for expensive and sophisticated optical systems. The DEF enhancement algorithm is a suite of enhancement methodologies including algorithms

supporting dynamic range enhancement, contrast optimization, contextual color enhancement, edge sharpening, rapid movement minimization and visual noise reduction. The combination of these algorithms provides finer, sharper levels of detail and clarity, static visual noise reduction, improve color representation (natural to the human eye), remove objects obscuring visibility, defined and detailed edges, reduced blurriness, all without frame skipping & white clipping.

The ProHawk Instant Visual Clarity Software product line enables partners to tightly integrate into a variety of industrial market solutions with industry standard video formats and interfaces, such as SMTPE, HDMI, & VESA standard formats, and HDMI, USB-C, DisplayPort, and Ethernet TCP/IP physical interfaces. A robust offering of Video Management Systems (VMS) integration plug-ins provides server side Instant Visual Clarity enhancements with client side visual clarity controls for market leading VMS solutions, including: Milestone, Genetec, and Geutebrück.

ProHawk Instant Visual Clarity Software Developers Kit (SDK) is a set of software tools that enables ProHawk technology to be tightly integrated into a variety of applications for hardware, software, and services market solutions. An Application Programming Interface (API) enables software engineers to easily integrate ProHawk Instant Visual Clarity capabilities directly into their systems and solutions. A Web UI provides instant integration into applications.

ProHawk Instant Visual Clarity FPGA Developers Kit (FPGADK) is a set of tools that enables ProHawk Visual Clarity algorithms to be embedded into an M.2, PCIe 3.0, or cloud services based FPGA. Designed for applications that require the absolute lowest possible latency, the FPGADK empowers developers to integrate Instant Visual Clarity into their real-time mission critical systems.

ProHawk Instant Visual Clarity Software-as-a-Service (SaaS) targets the lucrative, rapidly growing and high margin SaaS market. The ProHawk Instant Visual Clarity SDK, and ProHawk Instant Visual Clarity FPGADK, will be leveraged to provide ProHawk Instant Visual Clarity Software Services. The SaaS capabilities will be delivered over time and are designed to run on all major cloud service proders. For examples: Amazon AWS EC2 F1; Microsoft Azure FPGA-based configurable cloud instance; Google Cloud CPU & GPU service. ProHawk integrates in key SaaS markets such as Video Surveillance as a Service (VSaaS), Artificial Intelligence as a Service (AIaaS), and Computer Vision as a Service (CVaaS).

ProHawk uniquely leads the market with five critical patented algorithms:

Comprehensive Low Latency Detailed Enhancement Filter Algorithm – The DEF algorithm is optimized to minimize latency introduced while processing video enhancement. The DEF algorithm takes less than 20µs to enhance a HD-SDI 1080p60 video stream. No other image enhancement technology delivers this level of performance for real-time application support.

Clear Tone Contrast Algorithm – This algorithm provides low contrast image enhancement clarity due to extremely dark or bright frames and/or areas within frames. It divides an image into blocks to leverage a tone brightness histogram to adjust brightness for every pixel.

Contextual Color Correction Algorithm – Very small/fast algorithm to identify color in over or under exposed areas delivering improved color representation more natural to the human eye.

Rapid Motion Detection Algorithm – Removes unwanted objects obscuring visibility with noise reduction that eliminates frame skipping & white clipping. A simple 2 step bright and dark pixel processing code structure that detects rapid motion for every pixel.
Adaptive Detailed Enhancement Filter Algorithm – Patent pending in-frame processing algorithm that does not require previous video frames or histograms. Designed for rapidly moving source demands that are challenged with directional and/or target acquisition visibility difficulties. Delivers unparalleled video clarity with the lowest possible latency for autonomous vehicles, subsonic to hypersonic moving autonomous aircraft and missiles.

Value Proposition

ProHawk provides instantaneous visual clarity in time sensitive critical situations:

Instant Visual Clarity – ProHawk unlocks the highest quality real-time video enhancements with patented ultra-low latency enabling dramatically improved Instant Visual Clarity. Thereby enabling users, IoT devices, and computer vision systems to more accurately analyze and act on clarity in video data.
Visibility in Degraded Visual Environments – ProHawk provides visibility in adverse lighting and challenging environments that can leave little to no actionable data with traditional video systems. ProHawk provides Instant Visual Clarity in these circumstances enables Computer Vision AI systems, IoT devices, and humans to receive the full benefit of their video systems allowing them to take proper action quickly.
Clarity in Challenging Weather Conditions – ProHawk allows AI systems, IoT devices, and end users to see clearly through extreme weather conditions that impact the visibility of camera systems. Severely compromised video quality is eliminated with ProHawks Instant Visual Clarity Technology providing users and AI Computer Vision systems with the actionable data they require.
Improve Recognition – ProHawk is a foundation technology which enables Video Analytics, IoT devices, Artificial Intelligence and Computer Vision systems to dramatically improve event detection, object recognition, 3D pose estimation, and motion estimation.
Potential Life Saving – When clear visibility is the difference between life and death, ProHawk provides the instantaneous visual clarity required to make life-saving decisions.

From: fva-list-bounces@lists.umanitoba.ca on behalf of Darryl Branker <Darryl.Branker@torontopolice.on.ca>
Sent: Tuesday, January 8, 2019 1:05 PM
To: Forensic Video Analysis
Subject: Re: [FVA-List] Vintra, Veritone, Briefcam feedback - AI/facial and object recognition
Attachments: Untitled attachment 00117.txt

Good Afternoon:

We have Briefcam here in the unit and most recently looked at Vintra as we were expanding the units capabilities. We use Briefcam to work through large amounts of video. (the investigator module)

Listed specs and performance wise during our recent preliminary comparison, Vintra came out on top overall except that it required a hefty hardware spend for either its enterprise or cloud solution. Unlike Briefcam it serviced a wide array of codecs (Briefcam required mp4 files for its investigator module). Briefcam also seems to require almost perfect image quality to be useful for confined search parameters and obviously limited for IR video.

We have not had the opportunity to do a side by side actual comparison but will be sticking to Briefcam for now.

Regards,

Darryl Branker
Detective Constable #9450 | Homicide Squad |Forensic Video Avalysis Unit| Toronto Police Service
Ph: 416-808-7420 | Mobile: 416-473-8966 | Fax: 416-808-7402
Darryl.branker@torontopolice.on.ca

From: fva-list-bounces@lists.umanitoba.ca <fva-list-bounces@lists.umanitoba.ca> **On Behalf Of** Blake Sawyer
Sent: Tuesday January 8, 2019 12:12
To: Forensic Video Analysis <fva-list@lists.umanitoba.ca>
Subject: Re: [FVA-List] Vintra, Veritone, Briefcam feedback - AI/facial and object recognition

Chris not sure what you've gotten back, but I'd love to know what you learn. We had small license of Vintra, which worked ok. The issue is, because you upload the video to a server (which we had potential evidentiary issues) and because the issues with validation of Deep Learning software, we saw it as a good lead finding tool for Detectives more than a tool for analysis at this point. Maybe it'll get there, but I felt like we could be sure it found all the persons or vehicles, and some of the people it found were the leaves on a tree blowing.

One thing we have started using more for long videos is Griffeye Analyze DI. While the carver doesn't work for CCTV drives, the video tools are pretty handy. You can have it examine a section of video and in about 2 minutes (depending on the length of the video) it will spit out a time line with heat map showing when pixels change in that location. It can

also split the videos into segments and play them simultaneously meaning you can watch 6 sections of the video at the same time (hard when there is a lot of motion, but easy if you are just looking for anything in a parking garage.)

Briefcam we looked at a couple years ago, but it was at the time more for a dedicated camera and the license was a bit steep.

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Blake Sawyer-*CFVA CFVE*
Digital Media Forensic Specialist

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plano.gov

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This email is not meant to endorse any product, and the writer of this email hasn't been compensated for his opinion.

From: fva-list-bounces@lists.umanitoba.ca [mailto:fva-list-bounces@lists.umanitoba.ca] **On Behalf Of** STODDARD, Chris
Sent: Monday, January 07, 2019 4:15 PM
To: Forensic Video Analysis (fva-list@lists.umanitoba.ca) <fva-list@lists.umanitoba.ca>
Cc: LUM, Eugene <eugene.lum@vpd.ca>
Subject: [FVA-List] Vintra, Veritone, Briefcam feedback - AI/facial and object recognition

Hi friends,

Can anyone speak to the AI products Vintra FulcrumAI Investigator, Veritone aiWARE, or Briefcam?

I've already spoken to someone about Briefcam, and their review was positive.

I'm trying to solve two problems:

1. Video review: reviewing a DVR full of video takes foreverrrrrrrr, and is a waste of human resources. I need a product/machine that reviews the video for me, and displays meaningful results that I can filter. Show me all the trucks, show me all the people, show me all the faces – etc.
2. Facial recognition: if the system finds people, I want it to compare those results with our arrest system photos. Passively, and actively – as in, show me bad people even if I'm not specifically looking for them AND show me every time "bad person A" shows up. (I choose "bad person A," and want to see every time he shows up in any video that has been processed by the system.

If you are using anything else that I may find interesting, please let me know.

I've already done extensive research and development using experimental and prototype software – and I know the above is possible because I did it. What I need, though, is a commercially available and supported application that is scalable, not in the cloud, and actually does what it says it does. On-prem is preferred for performance and Privacy Act limitations. (On-prem is waaaaaaay faster overall, if your infrastructure is speedy. Uploading to a cloud and waiting for processing is very time consuming.)

Thanks in advance to those who can share some feedback with me!

Chris

Chris Stoddard CFVA
Vancouver Police Department
Forensic Services Section
Forensic Video Unit
Forensic Video Analyst
Phone: 604-717-3313
chris.stoddard@vpd.ca

From: fva-list-bounces@lists.umanitoba.ca on behalf of Soutullo,Joseph <jsoutullo@pcsonet.com>
Sent: Tuesday, January 8, 2019 1:35 PM
To: Forensic Video Analysis
Subject: Re: [FVA-List] Vintra, Veritone, Briefcam feedback - AI/facial and object recognition
Attachments: Untitled attachment 00068.txt

We have also done an in-depth demo of Vintra's Fulcrum AI. I agree that it's more of a lead development tool, however there is a time savings there over human viewing, even with the cloud-based disadvantages. There are three wait times involved with a Vintra project: the time to upload the video, the time is takes for Vintra to analyze the video you have uploaded for object identification and eventual attribute-based searches, and the time it takes to create a basic motion summary of any uploaded video.

Regarding #2 on your list, Vintra has a "known subject" function. You upload four different photos of a known subject's face and profile, and it searches for that subject in any of your project video files. In my testing, it found every instance of the subjects in the video clips. It even worked on 352x240 video where the known subject was positioned so that his face image only had a 12 pixel inter-eye distance. Finding that face in a one hour video is impressive from a face recognition perspective.

Vintra does indeed analyze a few proprietary video formats without conversion or pre-processing. I tested Click-it SmartCam XI videos from a 7-11 store along with the .264 video files generated by the current generation of NightOwl and Samsung branded DVR's. Both worked without a hitch.

A feature I actually used quite a bit was called "Video Contributor." It allows you to send an email to a person in possession of video files you need. The email contains a link for them to upload directly to your Vintra project. I used it to obtain copies of video files from our patrol deputies on the street. Vintra kindly implemented a "download original video file" function for me. Hopefully they've continued that capability.

Other vendors that incorporate face recognition with their video analytics systems that we've looked at (just demos so far) include AnyVision and Idemia.

Jody Soutullo
Pinellas County Sheriff's Office
727-582-2803

From: fva-list-bounces@lists.umanitoba.ca [mailto:fva-list-bounces@lists.umanitoba.ca] **On Behalf Of** Blake Sawyer
Sent: Tuesday, January 08, 2019 12:12 PM
To: Forensic Video Analysis <fva-list@lists.umanitoba.ca>
Subject: Re: [FVA-List] Vintra, Veritone, Briefcam feedback - AI/facial and object recognition

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To: Forensic Video Analysis (fva-list@lists.umanitoba.ca) <fva-list@lists.umanitoba.ca>
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Chris

Chris Stoddard CFVA
Vancouver Police Department
Forensic Services Section
Forensic Video Unit
Forensic Video Analyst
Phone: 604-717-3313
chris.stoddard@vpd.ca

From: fva-list-bounces@lists.umanitoba.ca on behalf of Jan Garvin <training@leva.org>
Sent: Monday, December 31, 2018 11:09 AM
To: fva-list
Subject: [FVA-List] Know Anyone?
Attachments: Untitled attachment 00100.txt

If you know of a company or individual that provides proven and competent training in either of these areas, facial recognition and voice ID, please let me know off-line. Thanks.

Jan Garvin, LEVA Executive Director, training@leva.org

From: fva-list-bounces@lists.umanitoba.ca on behalf of David Spreadborough <spreadys@aol.com>
Sent: Friday, June 10, 2016 11:00 AM
To: fva-list@lists.umanitoba.ca
Subject: Re: [FVA-List] Surveillance Video: Recognition vs Identification

Let me put my head above the parapet here and say, "Ignore all the guidance"!

If you go down a CCTV Installers recommended route of:
Detection, Recognize and then Identify; you will put yourself in a corner when someone recognizes a person in a system that doesn't fit this category. Recognition quality footage of a known person is deemed as when a person fits 50% of the vertical pixels.

Recognition evidence is based on knowledge of that person. My Mother would know and recognize me on poor CCTV footage, even if it was not possible to make out facial features.
Being able to write the recognition evidence is the hardest part.
How do they know the person, for how long, latest interaction etc etc....

We all recognize people everyday, in our daily lives and on the the TV. You may see and actor in a film made 30 years ago and then certain features will enable to you to recognize that person to be the actor you saw in a recent film.

As a result of the recognition evidence, an arrest or further inquiries will be made. From that point the evidence is built up.

Identification Evidence from a person in CCTV can only be made by two people. Firstly, the person themselves, by saying, "that's me".
The second is a Judge or Jury. The weight of the evidence put before them enables them to form the opinion that beyond reasonable doubt the Person in the footage is the person stood before them.
Even when automated facial recognition systems are in use - They are not the identifiers.

To assist you further - systems where around 10% of the vertical pixels are a person should be suitable for detection of a person.
If the entire vertical pixels are taken up by 3/4 of a person (Upper legs, torso and head), then these should be suitable to identify an unknown person BUT it comes down to compression used!

The guidance I would give, rather than specifying pixel stuff, is that if an officer recognizes someone in CCTV then that viewing should be made by them self, and they should not discuss the recognition with another officer. They should document the recognition immediately and that they formed this recognition by themselves. They should then contact the requesting dept/agency.

Other guidance should be given on the presentation of images for recognition. There are a multitude of problems here and any daily google search of persons caught on camera will show you most!
Poorly created, no evidential chain or link to original! No original - the only image is a mobile phone grab of a screen!!
No Unique reference number. I have even seen images created from a merge of two people!!!!! - Yes..Really!!!!

Hope that helps a little
Spready

David Spreadborough
Certified Forensic Video Analyst

www.forensicvideo.training
www.spreadys.com

+44 7477 544045

For all Amped Software Training Enquiries david.spreadborough@ampedsoftware.com

-----Original Message-----
From: Smith, Mark R (Police) (Police) <markr.smith@saintjohn.ca>
To: 'fva-list@lists.umanitoba.ca' <fva-list@lists.umanitoba.ca>
Sent: Fri, 10 Jun 2016 13:36
Subject: [FVA-List] Surveillance Video: Recognition vs Identification

Good Morning all,

My question is a result of an officer identifying a subject from a still photo that was of poor quality. I know I have read information somewhere about the levels of quality/resolution that would be recommended for different levels of subject recognition. I would like to have some supporting information before I approach our managers in order to provide better direction to our officers.

Is there anything official from case law or from one of our associations that spells out the different levels of surveillance video ranging from overall field of view "story telling" video down to a criteria that could provide close-up "identification" quality of a suspect in a video or still photo?

I've searched through the last few months of daily topics on the list and have not been able to find anything that has already covered the topic.

Thanks,

Sgt. Mark R. Smith i/c
Forensic Identification Section
Saint John Police Force
Email: markr.smith@saintjohn.ca
W: 506-648-3233|C: 506-650-8703

To suspend\resume email, send an email to:

fva-list-request@lists.umanitoba.ca

Put the following in the body of the message:

set authenticate password
set delivery off

Substitute the password that gets emailed to you once a month for the word password.

Same instructions to turn back on, but substitute the word on for off.

Having troubles accessing the FTP site? Email ftpinfo@fvaftp.com

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FVA-List mailing list
FVA-List@lists.umanitoba.ca
http://lists.umanitoba.ca/mailman/listinfo/fva-list

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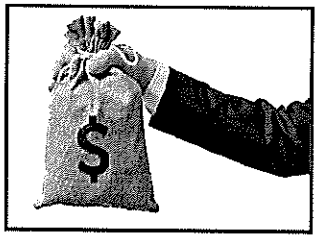

Baylor Legal Fees Rise After Sexual Assault Lawsuits

Baylor University's legal fees have skyrocketed over the past few years due to multiple lawsuits, investigations and settlements involving sexual assault and other issues.

• Campus Safety 2018 Online Summit Registration is Open

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• Study: Interior Security Cameras on Campus Make Students Feel Less Safe

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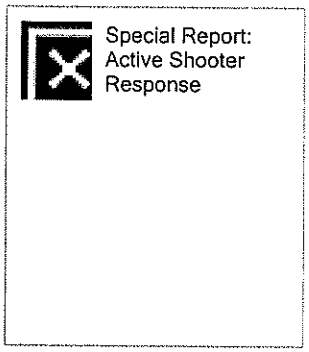

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Special Report: Active Shooter Response

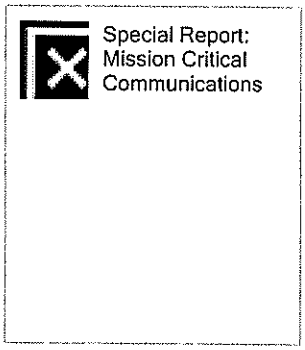
By Armor Express, BlueRidge Armor, Hardwire LLC, Lenco Armored Vehicles

Read POLICE Magazineâ€™s Special Report: Active Shooter Response to learn about what the FBI's latest study on active shooters really means, effectively coordinating with fire and EMS at the scene, tactical medics in active shooter response, talking to the community about active shooters, vehicle spotlights on the Lenco BearCat MedEvac G3 and The Armored Group BATT-X, and patrol response to the active shooter.

Special Report: Mission Critical Communications

By LDV USA, Nuance Communications Inc., Spillman Technologies, A Motorola Solutions Co.

In POLICE Magazineâ€™s Special Report: Mission Critical Communications, learn about the new role of radios on duty, first responder networks, advancements in 911 call center technology, cyber security, getting grant funding for communications equipment, and how to work with dispatchers.



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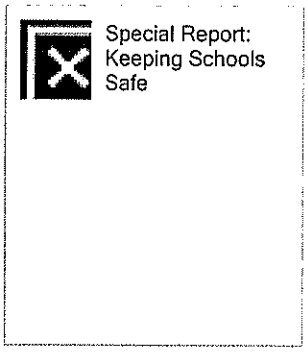

Special Report: Keeping Schools Safe

By Knightscope Inc., Omnigo Software, Hardwire LLC, Icom America Inc., Mutualink, BlueRidge Armor LLC, AmpliVox Sound Systems

In POLICE Magazineâ€™s Special Report: Keeping Schools Safe, learn about building police-school relationships, how readers would make schools safer, why you have to go in, crowd control, tactical medical response, and staging a school shooting

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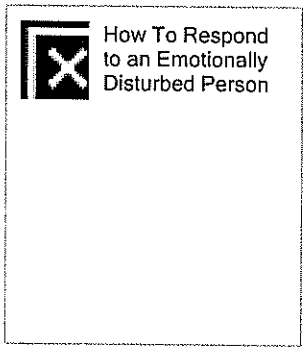
response drill.

How To Respond to an Emotionally Disturbed Person

By POLICE Magazine

Arm yourself with some basic skills to employ when encountering disturbed subjects in need of mental health services.



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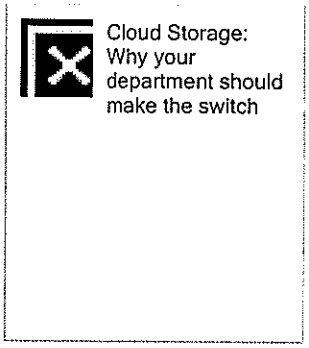

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Cloud Storage: Why your department should make the switch

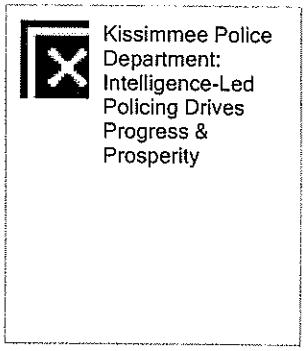
By Digital Ally

The cloud is relatively new territory for law enforcement agencies to store their video data, and itâ€™s concerning for many, but the cloud has many benefits including security, accessibility and ease of deployment compared to a local server. See why so many departments are making the switch!

Kissimmee Police Department: Intelligence-Led Policing Drives Progress & Prosperity

By Motorola Solutions

"Why are we reacting to the dots on the map?" asked Chief Jeff O'Dell upon entering the Kissimmee Police Department. He then said, "Let's try to prevent the dots and look ahead to stop crimes before they actually happen." Since then, things have never been the same. Over the years, the department has been working toward evolving to an intelligence-led policing model, even while facing budget constraints.



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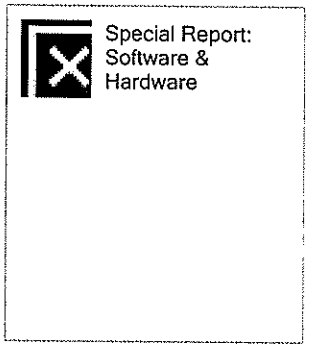

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Special Report: Software & Hardware

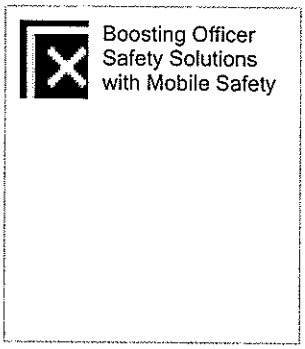
By APB360, ScheduleAnywhere, Envisage Technologies, Quetel Corp., and Spillman Technologies, a Motorola Solutions Co.

In this special report from POLICE Magazine, you'll learn about how hardware and software enhance officer safety, what you need to know about the cloud, how to handle software implementation, how laptops and tablets compare, and useful law enforcement apps.

Boosting Officer Safety Solutions with Mobile Safety

By Fujitsu America, Inc.

Through 20 years of serving first responders, Fujitsu knows you deserve the best technology to help you serve the public safely and efficiently. That's why Fujitsu tablet PCs are user friendly, designed for one-handed operation under stress, and rugged and reliable enough to stretch your agency's budget with long lifecycles.



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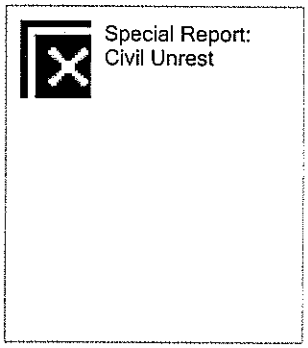

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Special Report: Civil Unrest

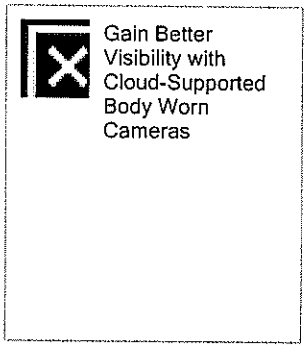
By POLICE Magazine

In this special report from POLICE Magazine, you'll learn about how response to civil disturbances can incorporate the use of less-lethal weapons, bicycles, body-worn cameras, and public order teams.

Gain Better Visibility with Cloud-Supported Body Worn Cameras

By Safariland VIEVU

Written specifically for police chiefs, sheriffs, and law-enforcement decision makers, this e-guide looks at the growing challenge of deploying a body camera solution that protects the integrity of evidence, your officers, and your department. Learn how to how to maximize public trust and officer safety with state-of-the-art video evidence management.



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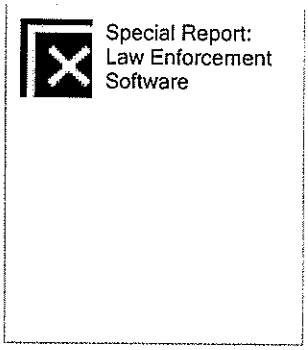

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In this special report from POLICE Magazine, you'll learn about how to buy software, successful software installation, measuring your agency's return on investment, and useful law enforcement apps.

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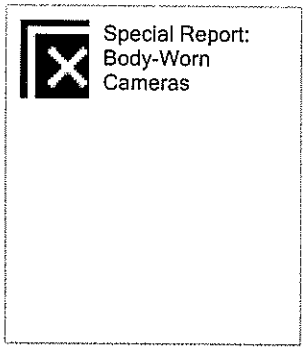
Special Report: Body-Worn Cameras

By POLICE Magazine

As many law enforcement agencies move to obtain and deploy body-worn cameras, it is important that the administrators of these agencies develop detailed policies that govern the use of these devices.



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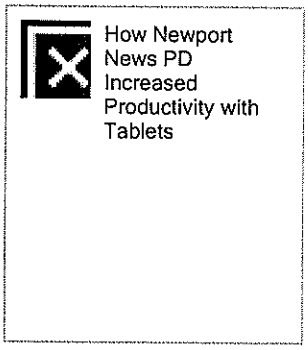
How Newport News PD Increased Productivity with Tablets

By Fujitsu America, Inc.



How Newport News PD Increased Productivity with Tablets Newport News, Virginia, encompasses only 69 square miles, but it is home to more than 180,000 people. Recently the Newport News Police Department decided to upgrade its aging in-car devices. The agency is now using Fujitsu STYLISTIC tablets to improve productivity.

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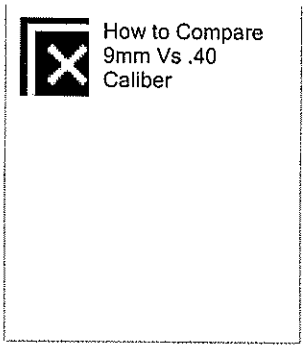
How to Compare 9mm Vs .40 Caliber

By POLICE Magazine

The FBIâ€™s decision to switch back to 9mm pistols and ammo is based on studies of wound ballistics and shooter performance.



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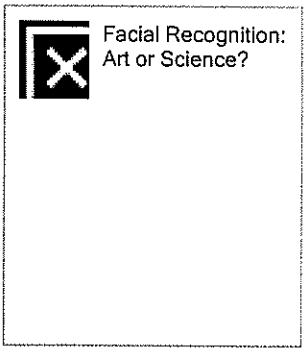

Facial Recognition: Art or Science?

By Vigilant Solutions

Generating a list of high-quality leads using facial recognition technology is now within reach for agencies of all sizes. Learn how facial recognition works, best practices for capturing probe images, and new breakthrough image pre-processing techniques that anyone can employ.

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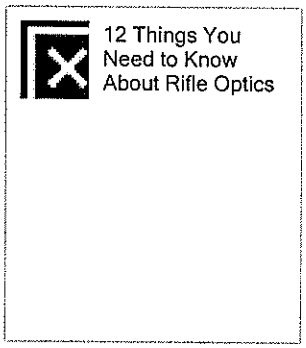
12 Things You Need to Know About Rifle Optics

By POLICE Magazine

In order to help you decide what optic best suits your needs, POLICE Magazine spoke with some experts on the tactical operation of firearms optics. And the following are 12 things they said you need to know about these essential accessories.



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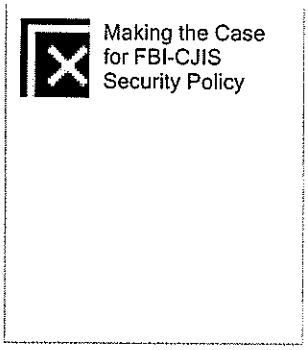

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Making the Case for FBI-CJIS Security Policy

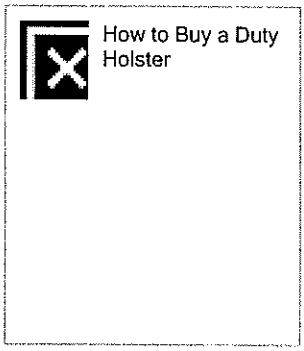
By Vigilant Solutions

Is your LPR data secure? It is your responsibility to determine whether vendors that serve you operate in compliance with the FBI-CJIS Security Policy. Get the answers you need to evaluate your providers, including Top 10 Questions to Ask by downloading the whitepaper: Making the Case for FBI-CJIS Security Policy.

How to Buy a Duty Holster

By POLICE Magazine

Carefully consider safety, security, and your body type before selecting gear to carry your sidearm.



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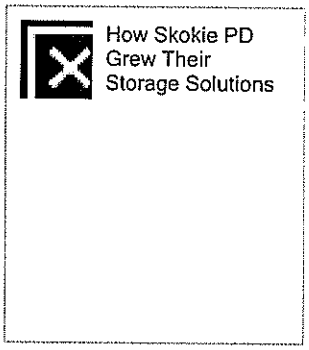
By Spacesaver

How a department's storage needs kept up with its fast growing



community.

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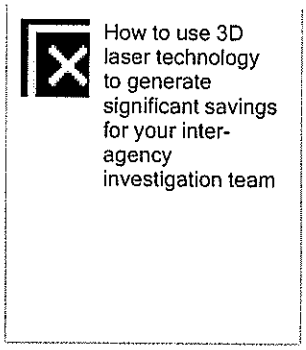
How to use 3D laser technology to generate significant savings for your inter-agency investigation team

By FARO

The Clackamas County, Oregon CRAFT team was challenged with limiting road-closure time and opening roadways faster. The inter-agency team with one full-time and 18 on-call reconstructionists purchased the FARO Focus3D X 330 Laser Scanner and have successfully reduced roadway closure times and saved the Clackamas County Sheriffâ€™s Office more than $28K in overtime hours alone in just under 16 months of operation.



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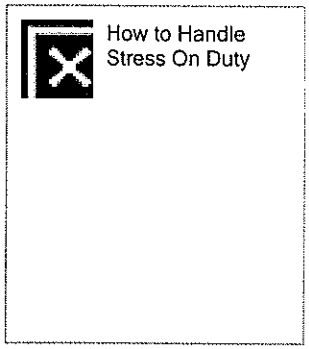

How to Handle Stress On Duty

By POLICE Magazine

You can take steps to improve your well-being at work before you reach the breaking point.

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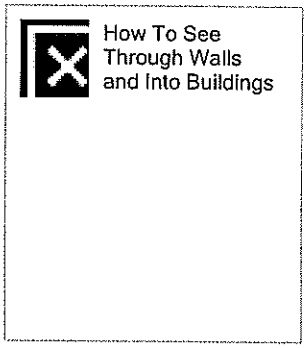
How To See Through Walls and Into Buildings

By L-3 CyTerra

Just as infrared (IR) and thermal scopes made seeing in the dark possible, a relatively new technology, called wall penetrating radar (WPR) makes "seeing" through walls and into buildings possible. WPR's are specifically designed and optimized for their radar signal to traverse through walls of buildings and other similar barriers, reflect off objects inside those structures, and return through the original barrier to the WPR.



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