

June 7, 2018 | [View as webpage](#)[Download the Mobile App](#)**Dear Police Leader,**

Modifying use-of-force policy and training is a complex issue with many factors to consider. In this month's PoliceOne Leaders eNewsletter, we take a look at the costs of raising the UOF standard, how one agency educates prosecutors about the realities of deadly force, and what officers, their families, and communities deserve from UOF training.

We also explain why patience is one of the most powerful tools in all aspects of policing, and why police agencies need to link crime and health data.

— *The PoliceOne Team*

## FEATURED ARTICLE



**What are the costs of raising police use of force to a higher standard?**

[Risks of modification >](#)

**Learn How to Curb Sick Leave Abuse in Your Department**



**What do LEOs, their families and our communities deserve from UOF training?**



**How an LE agency 'educates' prosecutors about OIS realities**

[MORE POLICE LEADER COLUMNS >](#)

**ELSAG Plate Readers Now See Make, Type, Color**



P1 conducted surveys asking about the effect of sick leave abuse. The results were clear: Sick leave abuse is

happening, and it is affecting staffing decisions and relationships inside departments.

✦ [Download the free white paper](#)



Find suspect vehicles faster by asking for make, type and color when querying your ELSAG license plate reader

data.

✦ [Get the details](#)

## LESSONS IN LEADERSHIP

### When patience is a police officer's best weapon



By Rich Emberlin, P1 Columnist

Patience exerts a powerful and primary influence not just in tactical operations, but in all aspects of policing.

[Follow a formula >](#)

### Free eBook: Public Safety in the Age of Connectivity

Find out how modern PDs use technology to increase situational awareness for

## RESEARCH ANALYSIS

### Why integration of public health and public safety data makes sense



By Catherine R. Counts, P1 Contributor

Camden ARISE – a new initiative out of New Jersey –demonstrates that merging disparate data sources can lead to surprising findings.

[Lessons learned >](#)

### Save Thousands with a Refurbished Toughbook 31

The Refurbished Toughbook 31 is MIL STD-810G ruggedized and screaming fast with Intel's Core





patrol officers while providing real-time feedback to the command center.

➔ [Download the](#)



i5 2.4GHz processor, optional 2.5GHz and 2.6GHz processors. Get it for only \$549 with a 2-year warranty.

➔ [P1 members save today](#)

## LEADERSHIP NEWS

- [Sheriff hires LEO fired after patrol car hit fleeing suspect](#)
- [LA mayor picks 36-year veteran as next police chief](#)
- [Conn. chief thanks 3 people who saved stabbed LEO's life](#)
- [Orlando police chief defends use of facial-recognition software](#)

[MORE POLICE LEADER NEWS ➤](#)



### Officer Safety on the Highway

The Spring 2018 PoliceOne Digital Edition is out now! See what's inside and let us know what you think.

Write a comment...

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Law Enforcement

Webinar Series

## Register for the February 28th human trafficking webinar for tips to find victims and stop criminals



### **Human Trafficking: Tools and Methods for Successful Cyber Investigations**

**February 28 at 2:00 pm EST**

The Internet has changed how human traffickers operate, enabling them to advertise their victims easily, anonymously, and to a large audience of buyers through various dating and relationship sites and various classified advertising platforms. This webinar, produced in partnership between Marinus Analytics and LexisNexis Risk Solutions, will show the best tools and methods to make use of this huge amount of data to find victims and traffickers successfully. It will cover how the data from LexisNexis law enforcement solutions like Accurant Virtual Crime Center in conjunction with Traffic Jam's artificial intelligence tools such as facial recognition through FaceSearch, can help rescue victims and complete searches in seconds. Join this webinar to gain tips and tools to make the most out of your time, to effectively find victims of human trafficking and bring their exploiters to justice.

**Register Today**



### **Introduction the Accurant Virtual Crime Center by LexisNexis**

**March 29 at 3:00 pm EST**

Law enforcement experts will introduce how Accurant Virtual Crime Center is the next generation solution for investigations and nationwide data sharing. This solution helps your agency to solve more crimes and discover hard to find information by linking 10,000 public records sources to national law enforcement data to find non-obvious connections and generate leads with one search.



[Register Today](#)

### Webinar Schedule

Apr 25, 2018 2:00 PM EST	Introducing the Accurint Virtual Crime Center by LexisNexis
May 23, 2018 1:00 PM EST	Making Connections: Linking Crimes at Local, Regional, and National Levels
Jun 26, 2018 2:00 PM EST	Introducing the Accurint Virtual Crime Center by LexisNexis
Jul 26, 2018 1:00 PM EST	Introducing the Accurint Virtual Crime Center by LexisNexis
Sep 26, 2018 3:00 pm	Introducing the Accurint Virtual Crime Center by LexisNexis

For more information on Accurint Virtual Crime Center, please [click here](#).

### Quick Links

[Contact the Team](#)  
[Product Training](#)

[Product Page](#)



If you do not wish to receive future PoliceOne Product Alerts, please [unsubscribe](#).  
To change your email address, update your [profile](#). © 2018: PoliceOne.com. All Rights Reserved.  
**200 Green Street, 2nd Floor, San Francisco, CA 94111**

January 25, 2018 | [View as webpage](#) [Download the Mobile App](#)

## VANGUARD II Full Body Harness



Built with Aerospacer™ mesh, the new padding pulls moisture away from the body and helps cool the rescuer.

[Learn more >](#)

## Stalker Radar a Game Changer in Officer Safety



Keep both hands on the steering wheel, focus attention on the road, and reduce clutter on the dash.

[Find out more >](#)

## DuraForce PRO: Ready for Work, Built to Survive

## Tactical Blanket Systems by Instant Armor





The DuraForce PRO by Kyocera is rugged, waterproof, and tough enough for any job.

[Why Kyocera is right for cops >](#)



Lightweight, large coverage for officers against pistol and rifle fire. Find out why Instant Armor has been called the "most versatile piece of equipment" in the field.

[Protect your officers >](#)

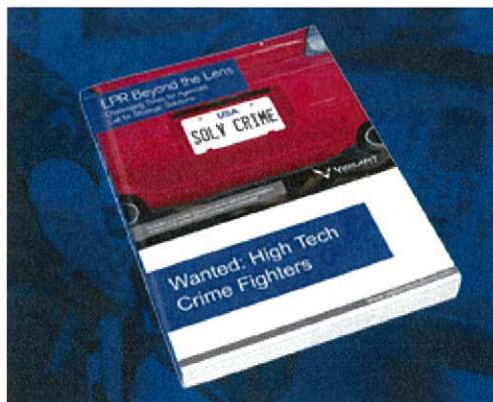
### Multifunctional Light for Running Boards, Push Bumpers, Tailgates...



Outliner increases the visibility of any vehicle with its capabilities to be used as a warning light or traffic advisor.

[Available now >](#)

### How Vigilant Solutions Helps Solve Major Crimes



Learn how to develop leads, solve crimes and protect officers with license plate recognition (LPR), analytics and facial recognition in this free eBook.

[Download the eBook >](#)

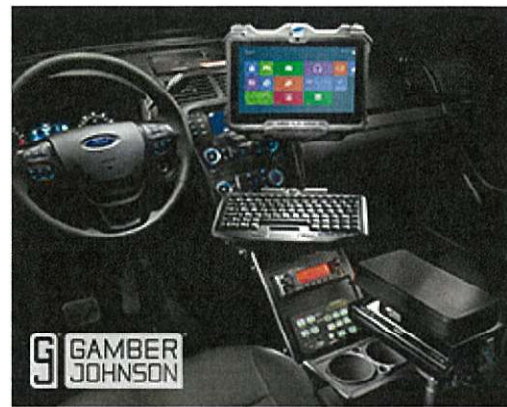
### Never Go to Your Trunk for Armor Again

### Maximize the Space in Your Vehicle



Angel Armor's RISE vest with Truth SNAP rifle plates provide rifle protection that can be worn comfortably all day.

[Get armored now! >](#)



Gamber-Johnson's in-vehicle mounts are designed to safely secure computers, radios and equipment within easy reach of the driver.

[Visit \[gamberjohnson.com\]\(http://gamberjohnson.com\) >](#)

### Lenco BearCat X3 FireCat - A Fire Truck for Cops



The X3 FireCat rapid response armored vehicle features a 4-6 personnel capacity, internal joystick controls, and a modular 'utility bed' design.

[Grants available now >](#)

### Manage Policies & Track Training in PoliceOne Academy



PoliceOne Academy streamlines training with simple policy uploads and sharing, videos for roll call and approved courses to meet annual mandates.

[Start your eLearning demo >](#)

### KNG Series P25 Digital Radios

### The SIG SAUER P320® Delivers Elite Performance





The KNG2 has a bright, colorized screen, programmable buttons, and industry leading options that make your radio easy to use.

[View full specs >](#)



The SIG SAUER P320® defies comparison with a smooth, consistent trigger pull, safe, tool-free disassembly, and a proper fit for any hand size.

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Hi Detective Michael Briggs,

Thank you for your interest in Vigilant Solutions.

Vigilant Solutions is a global provider of law enforcement solutions including LPR / ANPR and Facial Recognition.

In order for me to properly handle your information request, please tell me a little more about your interest. Any information you can provide me relative to your current project, products of interest, or agency initiatives would be greatly appreciated.

Helpful information:

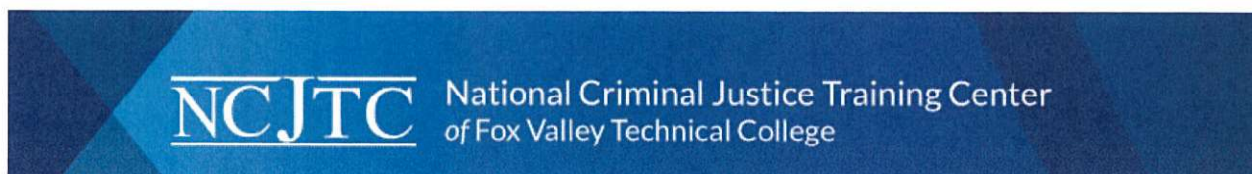
- Product of Interest
- Number of cruisers in fleet
- LE agency name
- Number of Sworn
- Budget \$\$ for project
- City, State & County (if applicable)
- Pain Points (i.e. – Burglary, Auto Theft, Gangs, Narcotics)

Please also include some available times in the coming week(s) so that we can set aside some time to discuss.

Regards,  
Jaremy Savage  
Inside Sales Representative  
Vigilant Solutions  
Protecting Officers, Families and Communities  
(817) 975-0353



Images not showing up? [Click here](#)



**Conference is 2 weeks away- Have you registered yet?**

**11th Annual National Conference on  
Responding to Missing and Unidentified Persons**  
Sheraton Atlanta Hotel | 165 Courtland St. NE | Atlanta GA  
September 19 - 21, 2017

**LEARN MORE**

**SCHEDULE**

Georgia POST credits available

***Three Training Focuses - Topics include:***

<b>Search and Recovery</b>	<ul style="list-style-type: none"> <li>• Case of Victoria Stafford Search</li> <li>• Missing and Murdered Native Women- the problem and response</li> <li>• Search for the Missing on Land, at Sea, and from the Air</li> <li>• Managing the Media in a Mass Casualty Event: Lessons learned from Sandy Hook</li> </ul>
<b>Investigation</b>	<ul style="list-style-type: none"> <li>• Benefits of Partnerships in Missing and Unidentified Persons Cases</li> <li>• Barway Collins Murder Case</li> <li>• Jacob Wetterling Investigation</li> <li>• Serial Predators and Human Trafficking</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>• Lessons learned from Katrina</li> <li>• Facial Recognition Technology</li> <li>• Canada's Missing Person DNA Program</li> <li>• Responding to International Parental Child Abductions</li> </ul>

**Spots still available for FEMA Course!**

**Emergency Operations Plans for  
Rural Jurisdictions**



*Certification Course- MGMT 383*

September 21, 2017  
Part 1 - 8:30 am - 12:00 pm  
Part 2 - 1:30 pm - 5:00 pm

**REGISTER**

**Still looking for lodging?**

If you are still looking for accommodations at the Sheraton Atlanta Hotel, please contact Helen Connelly at [dcoffice@fvtc.edu](mailto:dcoffice@fvtc.edu) for assistance.

Questions? Please contact us at (888) 347- 5610 or email [dcoffice@fvtc.edu](mailto:dcoffice@fvtc.edu)



National Criminal Justice Training Center  
(855) 866-2582 | [info@ncjtc.org](mailto:info@ncjtc.org) | [ncjtc.org](http://ncjtc.org) | [facebook.com/ncjtc](https://facebook.com/ncjtc)



NCJTC, 1825 N. Bluemound Drive, Appleton, WI 54914

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## Ready to be a better investigator?

### Join our Facial Recognition Webinar

There are still a few open spots for our upcoming webinar, Validate or Exonerate: The Importance of Facial Recognition Checks and Balances.

In this webinar, Retired NYPD Detective, Roger Rodriguez, will show you how a fully integrated CJIS compliant system, with good enhancement tools and built-in auditing and reporting can assist agencies to validate or exonerate persons wanted in criminal investigations.

Topics Include:

- The importance of reporting and annotation tools
- Checks and balances
- Privacy and compliance
- Use case examples

**When:** Thursday, July 13th 3:00 PM EST / 2:00 PM CST



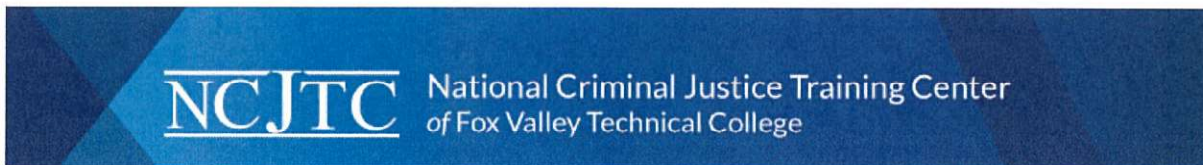
Register Now→

Space is limited, please register early to save your spot.



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Registration Open for 2017 Conference!

## 11th Annual National Conference on Responding to Missing and Unidentified Persons Conference

Multiple Victim Events: Implications for Investigation, Search, Rescue, and Recovery  
September 19 - 21, 2017 | Atlanta, GA

Individual Registration \$400



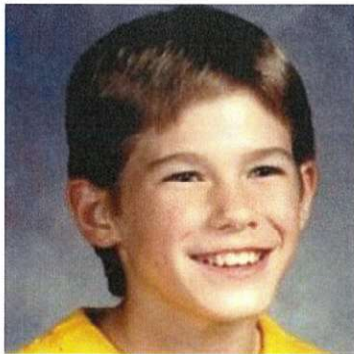


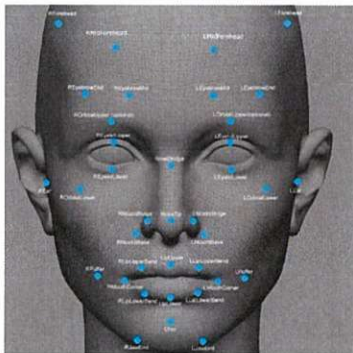
Groups of 3+ \$350 per registrant



## 2017 Conference Highlights

Emergency Preparedness	FEMA Certification
A group of people in red and white uniforms are on a small boat, likely a rescue or search team, in a body of water near a building.	A person wearing a blue jacket with "FEMA" written on the back is standing in front of a white building, possibly a FEMA training facility.



Lessons Learned from Katrina	Emergency Ops Planning for Rural Jurisdictions
Panel Discussion	Investigation Case Study
 <p>The Jacob Wetterling Story</p>	 <p>Barway Collins</p>
Public Information	High Tech
 <p>Managing the Media at Sandy Hook</p>	 <p>Using Facial Recognition Software</p>

See our agenda for full details about the conference!

AGENDA

MORE INFO

### Venue and Lodging

Sheraton Atlanta Hotel | 165 Courtland Street NE | Atlanta, GA  
(404) 659-6500

MORE INFO

Questions? Please contact us at (888) 347- 5610 or email [dcoffice@fvtc.edu](mailto:dcoffice@fvtc.edu)



National Criminal Justice Training Center  
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September 6, 2016 | View as webpage



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## TOP NEWS



### Austin officer dies days after motorcycle wreck

- **NJ officer shot in head improves:** Officer Joshlee Vadell remains critical, but stable after being shot in the head outside an Atlantic City casino
- **La. first responders lose homes in flooding:** Hundreds worked long hours during the days and weeks after the floodwaters began to rise even as their own homes sank
- **Colo. deputy critically wounded in shootout:** Detective Daniel Brite was critically wounded after a suicidal suspect opened fired on officers



### Officers threaten to boycott 49ers games, chief vows safety



### Texas trooper critically injured by suspected drunk driver

- **As homicides rise, Chicago mayor looks to hire more cops**
- **Maine sheriff's deputy assaulted by suspect**
- **Orlando police chief defends shooting data**
- **Boston police union goes to court over body cams**
- **Armed officers placed at jail where shooting occurred**
- **Police: Miss. man claimed to be immune from arrest**

**Are Your Portable Radios Up to**

**Powerful HD Recording with**



## the Job?



We listened to our end-users and created a rugged radio that offers effortless communication in even the most hazardous environments.

✦ [Get assistance - grants available!](#)

## Patrol Witness's New PR1ME Witness Bodycam



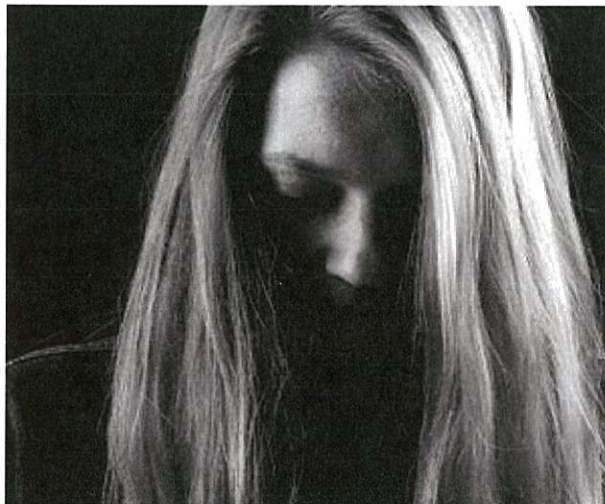
With 7+ hours of battery life, continuous wide-angle HD recording and 32GB of storage, you'll never miss a

single frame.

✦ [Learn more today!](#)

## HEALTH AND WELLNESS

### Are we complicit in police suicide?



By Jeff McGill, PoliceOne Columnist  
Officers train together to manage violence, discuss the latest tactics and have a commitment to ensure they all go home, but rarely discuss their mental health.

[Identification and prevention >](#)

## OFFICER SAFETY

### Small handguns: Choose your loads carefully



By Richard Fairburn, PoliceOne Columnist  
Mouse gun calibers lack the oomph to give both expansion and adequate penetration.

[Picking the right firearm >](#)

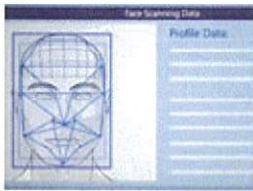
## PRODUCT VIDEOS

### Vigilant Solutions Facial Recognition Technology Overview

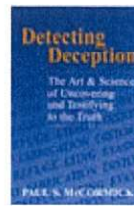
Vigilant Solutions' facial recognition technology

## FEATURED DEALS

**Detecting Deception. Learn to effectively, accurately & consistently DETECT DECEPTION!** With LooseLeaf Law



suite includes FaceSearch and Lineup.



## PRODUCT NEWS

BOOM! IG restores @WorldOfTroy, TROY celebrates!

Now Available from OfficerStore: The Exclusive Blue Leatherman Raptor

### More Product News



Grants Help Now Available for an Intuitive RMS Platform! With Mark43

### More Featured Deals

## DRUG INTERDICTION

**Kratom: What cops need to know about the drug the DEA plans to ban**



By Keith Graves, PoliceOne Columnist  
Kratom, currently sold as a health supplement, is often used by individuals as an alternative to heroin.

Becoming more aware >

## GIVE POLICE LOVE! #BLUELIVESMATTER

Not feeling the love? Show Law Enforcement support by

## NOW ON BLUTUBE

**High-speed pursuit ends in attack on cops**



**Clowns terrorize SC town**



## Body Armor: Why 4 Panels Are Better Than 2

Body armor can save your life, but only if you wear it.





showcasing one of our newly designed: t-shirts, bumper stickers, license plate frames, or hats! 25% of Gross Profits

are donated to the National Law Enforcement Officers Memorial Fund.

➔ [Show your support today!](#)



Propper's new 4PV armored vest provides greater comfort and protection than a two-panel 'clamshell' design.

➔ [Read the full article here](#)



- 👍 2.9K [Why one cop carries 145 rounds of ammo on the job](#)
- 👍 2.8K [Was U.S. Marshal Bass Reeves the real Lone Ranger?](#)
- 👍 1.9K [Austin officer dies days after motorcycle wreck](#)
- 👍 1.6K [Officers threaten to boycott 49ers games, chief vows safety](#)
- 👍 1.2K [8 rules for properly displaying an American flag](#)

## CAREER CENTER



### Online Criminal Justice Degrees

Columbia Southern University wants to help you take your career to the next level.

**Featured Job:**  
**Lateral Police Officer**  
 Seattle, WA  
 \$33.16 - \$43.43 hourly

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Wednesday, October 26, 2016



### MAR1071 1-4.5 x 24mm - March Optics

MAR1071 1-4.5 x 24mm was specifically designed for the Service Rifle match shooter who shoots at various distances up to 600 yards.



### Si500 Body-Worn Camera - Motorola Solutions

The Si500 Body-Worn Camera integrates voice communications, video, images, voice recording, and emergency alerting into a sleek, rugged, and feature-rich design with a built-in remote speaker microphone



### Dragon Law Enforcement - Nuance

Dragon Law Enforcement delivers on the need of law enforcement professionals, including police officers and sergeants, for a fast, accurate way to safely and efficiently meet daily reporting and documentation demands - all by...



### CVE Wheel/Axle Scales Unit - OPS PUBLIC SAFETY

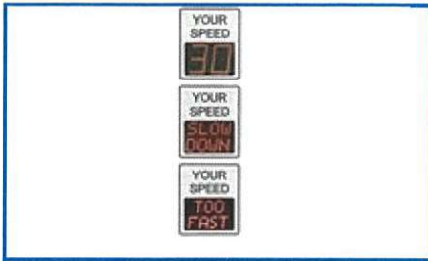
OPS Public Safety has released the new CVE Wheel/Axle Scale Unit, specifically designed for commercial vehicle enforcement.



### Two-In-One Plate Carrier - Point Blank Enterprises

Point Blank's Two-In-One Plate Carrier features front and back plate pockets for NIJ Level III or IV hard armor

plates.



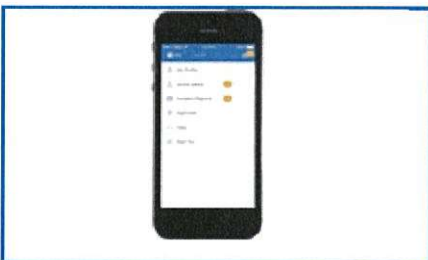
### TC-600 Speed Display Sign - Radarsign

Radarsign's TC-600 is a full matrix radar speed sign with a 13" LED display with directional beam technology.



### ZigKick Tactical Series - Reebok Duty

Reebok Duty ZigKick Tactical boots feature FootFuel Footbed Comfort Technology.



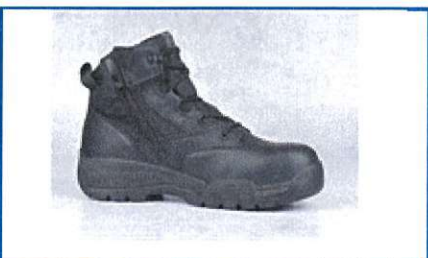
### Iris - Spillman

Introducing Iris, Spillman's new public-facing non-emergency incident reporting app.



### Axon Body 2 - TASER

Axon Body 2 lets you capture video in HD without distractions and receives upgrades every 30 days.



### 6" Duty Composite Safety Toe Waterproof Side-Zip Boot - Timberland

Built specifically to provide public safety professionals with lightweight comfort and protection on the job.

## Urban Force TRU Pant - Tru-Spec

Tru-Spec's Urban Force TRU Pant was designed in conjunction with law enforcement officers to encompass an approachable, yet tactical style.



## Phantom OPS Pants - Vertex

Built from the same blueprint as the Vertex Original Pants, the Phantom LT 2.0 Pants are designed to deliver optimal performance in an extremely light-weight format.



## Retracta-Cade - Visiontron

The patent pending Retracta-Cade was developed by a retired NYPD lieutenant for the purpose of increasing officer safety by providing a durable on-demand barrier control system.



## Redactive - WatchGuard Video

Redactive software speeds redaction of video using advanced facial recognition technology.



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LAW and ORDER Newsletter September 2016

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## Police Shooting in Charlotte Raises Questions About Bodycams

The fatal shooting of a black man by a police officer in Charlotte is only the latest shooting to raise questions about how department uses body cameras... [Read More](#)

## Crime And Social Media: Law Enforcement Is Watching

Law enforcement is rapidly developing sophisticated tools to monitor and analyze social media activities... [Read More](#)



## McCarthy, Packers donate big to police foundation

Law enforcement is rapidly developing sophisticated tools to monitor and analyze social media activities... [Read More](#)

## Latest Law Enforcement Products



OfficerStore Active Shooter Kit





Get effective protection during Active Shooter situations with OfficerStore's Active Shooter Kit, featuring a Condor Modular Operator Plate Carrier and two Armor Express Level IV Single Curve Standalone Plates. You'll get functionality with modular platforms on all sides and mobility with operator-cut front and back harnesses and maximum ballistic protection against rifle threats with rifle plates capable of stopping .30-06 M2 AP ammo at 2880 ft/s. For more information, visit [www.officerstore.com](http://www.officerstore.com).



### Pryme BTH-300 Bluetooth Headset Wins Mobile Tech Award

Pryme spent years perfecting their new PrymeBlu BTH-300 Bluetooth Headset with built-in wireless PTT. BTH-300 uses any Apple compatible wired audio accessory converting it to wireless operation and dual-pairs with Android or IOS cellphone/tablet and two-way radio simultaneously--perfect for undercover applications operations as the Status multi-color LED is almost invisible. Use your earbuds or choose one of PrymeBlu's 8 unique, heavy-duty headset kits including D-Ring Boom Headset; Dual-element Throat Mic; Surveillance Earphones and more. Maximum performance with 10+ hours talk time (50 hours standby) and

### Enabled Enterprises Electric Bike

Enabled Enterprises, a business founded by disabled veterans, along with its GSA approved manufacturing partner, developed the first of its kind Electric Patrol Bike for police and military. Pedal, pedal assist, or full power. Streets, trails, snow, grass. Up to 25 mph. "Bike has performed well, our guys and the public love them," said Chief John Sliozis, Deerfield, Ill. PD. For more information visit, [www.enabledenterprises.com](http://www.enabledenterprises.com).



### OPS Public Safety CVE Wheel/Axle Scales Unit

OPS Public Safety's all-new CVE Wheel/Axle Scales Unit is specifically designed for Commercial Vehicle Enforcement. Engineered for the Ford Explorer, it holds four scales, gear and rifles. Manufactured of heavy gauge aluminum with available features that include a 10"H X 35"W X 20"D Storage drawer with heavy-duty 200 lbs. ball bearing slides, a 36 inch-deep drivers side storage compartment, an anti-skid top surface with perimeter cargo rail, durable anti-skid rubber in drawer bottom and side compartment.



includes USB charger. Clips securely almost anywhere for hands-free wireless communications. For more information, visit [www.pryme.com/promo/lo](http://www.pryme.com/promo/lo).



### Vigilant Solutions FaceSearch Facial Recognition Solution

FaceSearch is an easy-to-use facial recognition solution that results in more investigative leads. Developed by Vigilant to deliver a functional, scalable and advanced facial recognition solution that any investigator can use, FaceSearch is available as a PC-based or web-based solution, and is hosted in the cloud and available on Android and Apple OS mobile devices. For more information, visit [www.vigilantsolutions.com](http://www.vigilantsolutions.com).

The detachable scale compartment has Teflon slide rails. To access the spare tire, simply unfasten and remove the scale compartment. The base and brackets utilize OEM bolt holes that eliminates drilling for installation (optional barrier available). For more information or a demo visit [www.OPSPublicSafety.com](http://www.OPSPublicSafety.com).



### Dickies Tactical Softshell Performance Jacket

The Dickies Tactical Jacket, through its warm lining and articulated elbows, offers comfort and ease of movement. Hidden front and back ID panels and a side holster for simplified CCA access lets this jacket store all your tools and accessories, keeping your hands free when you need them most. The jacket is available in black and blue. For more information, visit [www.DickiesDelivered.com](http://www.DickiesDelivered.com).



### OSI Online First Aid Kit Builder

Officer Survival Initiative (OSI), a leading manufacturer and distributor of high quality, innovative medical solutions for high risk and tactical environments, is introducing a system that allows first responders to build their own response kits online at the IFAK Builder web page. Kits are custom built by the user starting with the of bag and color, and followed by a selection of contents from some of the leading names in the industry: combat dressings, tourniquets, QuikClot and other hemostatics, chest seals, decompression needles, PPE, tape, gauze and a wide selection of tools. For more information, visit

[www.officersurvival.org](http://www.officersurvival.org).



### RexONE Backpack Stretcher

REX Rapid Extraction introduces the RexONE First Responder Backpack Mobile Stretcher - A tri-fold backpack stretcher for the rapid extraction of patients by a single responder. Safely move more patients faster with the RexONE Rapid Extraction system. Developed by emergency responders for First Responders, the state-of-the-art RexONE is the fastest and safest patient extraction device available. It can mean the difference between life and death in any emergency, especially tragic situations involving multiple patients. Completely portable, the RexONE mobile stretcher can be carried as a backpack in folded position and can be folded and hung on the wall ready for quick deployment. For more information visit [www.rexems.com](http://www.rexems.com).

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Dear Detective,

Hello, my name is Fran from Suspect Technologies. We developed a highly accurate facial recognition technology that works for any cameras to make identification of people, easier and faster. In turn, we hope it will make identification of suspects easier, save resources, save time, and of course reduce crime. We are currently trying to gather insights to see if this technology works for you, any suggestions or comments, and if this is something that you think would be helpful for you in investigations and possibly the field. Just to be clear, I'm not necessarily trying to sell you anything. We are a spin-off from MIT. We are trying to understand if detectives want this or not and how they are currently using facial recognition and related technologies. Any feedback is helpful. Are you available to answer some quick questions via email or phone?

Best Regards,  
Fran  
Suspect Technologies



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Monday, September 05, 2016



## Video: TX Motor Officer Dies After 'Valiant Fight'

The Austin, TX, police officer hurt in a motorcycle crash Thursday died as a result of his injuries Sunday. Officer Amir Abdul-Khaliq, 46, was struck by a car while escorting a funeral procession.



## Video: CO Detective Critically Injured in Shooting, Showing 'Promising Progress'

Det. Dan Brite is making "promising progress" after a shooting with a suspect in Parker, CO, on Friday, the Douglas County (CO) Sheriff's Office said Sunday.



## Video: CA Deputies Critically Wounded in Courthouse Shooting

The Fresno County Sheriff's Department has confirmed that two officers were shot Saturday morning during an attack by a convicted rapist at the Fresno County jail in Downtown Fresno.



## Ask the Expert Your Questions About Facial Recognition

Now you can ask an expert your questions about facial recognition and read responses to others' questions on PoliceMag.com.



## Funeral for Slain New Mexico Officer Set for Saturday

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Funeral arrangements have been set for Alamogordo, NM, Officer Clint Corvinus, who was shot and killed last Friday.

## NJ Officer Critically Wounded in Atlantic City Shootout, Suspect Killed

One police officer remains in critical condition and one suspect is dead in an exchange of gunfire outside an Atlantic City casino early Saturday.



### Duty and Tactical Boots 2016

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Monday, March 12, 2018



## NC Deputy Killed in Crash While Trying to Pull Over Vehicle

Deputy David Lee'Sean Manning, 24, had worked for the Sheriff's Office for about four months.

## Austin Police Searching for Serial Bomber, Murderer

Interim Police Chief Brian Manley confirmed that evidence suggested that this bombing was related to two previous blasts from "box-type deliveries" that killed a teenager earlier in the day and a 39-year-old man 10 days ago.



## CA City Holds Vigil for Officer Killed On His Last Day of Training

More than 300 mourners gathered outside Pomona police headquarters Sunday night for a candlelight vigil, where officers wore black mourning bands with the number "16" "Casillas' badge number" over their badges.



## Video: Colorado Department Releases Footage of Fatal OIS

Officers gave numerous commands to drop the weapon that the suspect ignored, and then the officers fired.

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## Family of Fallen Maryland Officer Receives Generous Gift

The grieving family of a fallen Maryland police officer received a generous gift from a local business who wanted

to help ease the pain -- by paying the family's mortgage for a year.

## Florida Court Hearing Appeal of Case Involving Facial Recognition Technology

The court battle, regarded by researchers as the first of its kind in the country to consider how the surveillance tool can be used in a criminal case, is being waged over a statewide biometric database of faces run out of the Pinellas County Sheriff's Office -- one that extends...

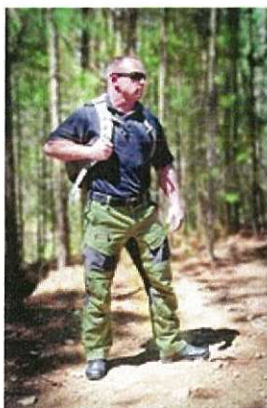


## Video: NC Officer Becomes Department's First Female Sharpshooter

McFaul said it's an honor to be the first female to reach such a prestigious level within the force, and she hopes to inspire other women.

## Pennsylvania Sheriff Hires Recent College Grad as Second in Command

Held announced the appointment of Travis Day, 23, of Jeannette to serve as a captain in the sheriff's department, filling a void in the leadership team due to an indefinite medical leave and a resignation.



## Police Product Test: Tru-Spec Men's 24-7 Xpedition Pants

Top to bottom, the Tru-Spec Men's 24-7 Xpedition Pants bring a ton of features to the table. These things mean business.

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Thursday, October 18, 2018

### California Deputy Critically Wounded in Shootout, 2 Suspects in Custody

A San Bernardino County, CA, sheriff's deputy was in critical but stable condition after being wounded in a shootout early Thursday morning at an apartment complex in Adelanto, the agency said.

### South Carolina Deputy Making Remarkable Recovery After Being Shot

According to WPDE-TV News, 24-year-old Florence County Deputy Arie Davis has made a remarkable recovery and is doing well.



### Court: Police Cannot Force Facebook to Wiretap Calls Via Messenger App

A U.S. District Judge in Fresno (CA) has ruled that law enforcement officials cannot compel Facebook to wiretap voice calls over its Messenger app.

### Oregon Man Started Fire in Attempt to Ambush First Responders

The manâ€”identified as 65-year-old Lance Taylor Jacobsâ€”reportedly set the fire in an attempt to lure police officers and firefighters in an ambush attempt.



### Georgia Trooper Struck in Ballistic Vest in Gunfight at Traffic Stop

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The trooper was reportedly struck in his ballistic vest. He was transported to a nearby hospital, where officials say he is expected to be OK.

### **Anonymous Amazon Employee Publishes Op-Ed Opposing Sale of Facial Recognition Tech to Police**

An anonymous employee for tech giant Amazon recently posted an opinion article to Medium in which they argue that the sale of facial recognition software to police is wrong because "the product we're selling is a flawed technology that reinforces existing bias."

	<b>Networking for Law Enforcement Technology Leaders</b> December 2019   Scottsdale, AZ	
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### **Illinois Officer Charged With Armed Robbery, Suspended Without Pay**

Should Karas be exonerated of the criminal charges and the internal allegations of misconduct, he would be eligible to receive back pay.

### **New South Carolina Law Helps Criminals Erase Criminal History from Public Record**

Lawmakers in South Carolina recently made it easier for the convicted to erase crimes from their publicly available records, expanding the list of convictions eligible for expungement.

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### **Oregon Police Hold "Summit" to Build Community's Trust**

"Building Bridges of Understanding in Our Communities came together in September 2016, at a time of heightened tensions in our country and polarizing political rhetoric," said the City of Portland on its website.

### **Connecticut Police Officer Fired Over "Trigger Happy" Comment**

The department said in a Facebook post that Officer Stephen Barone was fired "after the completion of internal investigations and a formal hearing process regarding charges related to his interaction with a group of people in August 2018 and his supervision of a traffic incident..."

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Thursday, June 21, 2018



### NYPD Unveils New Policy to Reduce Unnecessary Marijuana Arrests

According to NYPD projections, the new policy will likely reduce overall marijuana arrests in New York City by about 10,000 per year based on 2017 arrest records and patterns.



### Balancing Privacy Rights and Facial Recognition Technology for Police

Disruptive technologies present challenges for everyone — police administrators included. But such technologies also carry significant benefits not only for police, but for the citizens they are sworn to protect.

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### NYU Professor Publishes Personal Information on 1,500+ ICE Agents

Sam Lavigne — a New York University professor who associates himself with the far-left-leaning group Antifa — reportedly posted a database of personal information of more than 1,500 Immigration and Customs Enforcement (ICE) employees.



*Sponsored by Columbia Southern University*

### For Community Policing to Succeed, Walking Around Isn't Enough

Community policing is a way for members of a community and the local police to work hand-in-hand, but what all does it require of residents and volunteers, and how does a community ensure a successful program?



## Rhode Island State Police Send Stuffed Toy to 4-Year-Old New York Boy

A Brooklyn family had been traveling on I-95 in Rhode Island when a stuffed toy belonging to a 4-year-old boy fell out the window of their vehicle.



## Minnesota Officers Help 9-Year-Old Recover from Lemonade Stand Robbery

Officers from the Brooklyn Park (MN) Police Department recently responded to a call that a couple of middle-school-age kids had stolen a young boy's lemonade stand profits.



## Washington to Allow Non-citizens to Apply for Police Jobs

Legislators in Washington state passed Senate Bill 6145, which changes the qualifications for police and firefighter jobs to include "legal permanent residents" with a clean criminal record.

## Trial Begins for Ex-cop Accused of Rape at Massachusetts Police Station

A former Massachusetts police officer accused of a 2016 rape in a station holding cell says the sexual acts were consensual.



## Pennsylvania Police Fatally Shoot Man During Traffic Stop

A police officer in the town of East Pittsburgh fatally shot a 17-year-old suspect just seconds after he fled a traffic stop late Tuesday.

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Friday, June 22, 2018

## **SCOTUS: Tracking Cell Tower Location Data Requires a Warrant**

In a 5-4 vote, the United States Supreme Court ruled on Friday that police must first obtain a search warrant before examining location data â€” cell tower records that can show a personâ€™s movement for long periods of time â€” stored on a subjectâ€™s mobile phone.

## **Amazon Employees Join ACLU, Investors in Protest of Amazonâ€™s Sale of Tech to Police**

A group of Amazon employees have asked company executives to discontinue its sale of the companyâ€™s Rekognition facial recognition software to law enforcement agencies.

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## **Officer Wounded in Texas High School Shooting Heads Home**

Officer John Barnes â€” who along with Officer Gary Forward rushed to end the threat of an active shooter at Santa Fe High School in May â€” walked out of a Houston-area hospital on Wednesday.

## **Video: Actor Dean Cain Sworn in as Idaho Reserve Deputy**

Actor Dean Cain â€” whose acting roles include Superman â€” was recently sworn in as a reserve officer with the Saint Anthony Police Department in Idaho.

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## **German Police Set Up Fake Traffic Collision to Test**

## Citizen Response

Police in Germany wanted to discover how many people would stop to help victims of a roadside crash, so they set up a fake accident scene complete with two victims made to appear to be badly injured.

### FBI, DEA, Local California Agencies, Take Down Major Meth Ring

An eight-month operation by the Fresno County Sheriff's Office, Drug Enforcement Administration (DEA), and Federal Bureau of Investigation (FBI) has resulted in the seizure of large quantities of methamphetamine and marijuana.



### Texas City Settles "Pool Party Incident" Lawsuit

The City of McKinney (TX) announced that it has settled a lawsuit filed on behalf of Dajerria Becton, the bikini-clad teenager who was seen on a viral video being taken to the ground by McKinney Police Officer Eric Casebolt.

### DNA Left on Abandoned Bike Leads to Arrest in Florida Murder Case

Police in Miami Gardens (FL) say that DNA collected from a bicycle abandoned at a murder scene in March led to the arrest of 23-year-old David Jones.



## Squad Car Collides with Bus in England, Injuring 10

Four people were taken to hospital and six more received minor injuries when a police car answering an emergency call collided with a bus.

## Living with PTSD: Your Life Means Something

There will be times that you are going to want to give up "you may even want to try to take your own life. Don't.

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Wednesday, May 23, 2018

## **Video Disputes Woman's Claim That She was Sexually Assaulted by Texas Trooper**

After the Department of Public Safety published the full nearly 2-hour body-cam video of the incident, Sherita Dixon-Cole's attorney, Lee Merritt, apologized online and said that the trooper in question had been "falsely accused,"

## **Video: Man Charged with Trooper's Murder in Fatal North Carolina Crash**

Authorities had been looking for 22-year-old Dakota Kape Whitt after Trooper Samuel N. Bullard, 24, of Wilkes County, died late Monday night in a crash along Interstate 77 in Yadkin County during a chase.



## **Video: Florida Officer Seriously Injured Crashing into Semi Truck**

A Florida police officer was seriously injured Monday evening and had to be airlifted after crashing into the back of a semi truck that was already stopped for a previous accident.

## **Houston Chief in War of Words with NRA Over Gun Control**

"@ArtAcevedo plays the part of a police chief ... he says he wants to go after criminals, but for him apparently the easiest way to do that is to make new criminals that are easy to catch â€" make criminals out of law-abiding gun owners," NRATV tweeted late Monday.



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## ☒ Ohio Deputy Shot in Abdomen Released from Hospital

Deputy Jacob Heaberlin, 29, was escorted home by deputies with the Franklin County Sheriff's Office and officers with the Columbus Division of Police.

## ACLU Demands Amazon Stop Providing Facial Recognition Tool to Law Enforcement

In Oregon, the Washington County Sheriff's Office is using the program to look for matches within its own database of booking mug shots, said Deputy Jeff Talbot. The department also confirms each match made through the Rekognition software by another method, he said.



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## ☒ Video: More Officers Dying From Suicide Than Duty Deaths in 2017

A study by the Newton-based Ruderman Family Foundation found police officers and firefighters experience PTSD and depression at rates five times higher than the average public.

## ☒ Video: West Virginia Officer Shot in Burglary Recognized for Bravery

Patrolman E. Seth Johnson was responding to a burglary on Albert Street when the suspect shot him in the front upper torso which was protected by his Point Blank ballistic vest.

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## ☒ Dallas Officer Wounded in Fatal Shootout with Shoplifting Suspect Leaves Hospital

Almeida, 26, was released from a Dallas hospital Saturday. She and her partner, Rogelio Santander, 27, were shot April 24 outside a Dallas-area Home Depot as they were detaining shoplifting suspect Armando Luis Juarez, 29. Santander was killed in the shooting.

## ☒ Video: FL Sheriff Orders Armed Officers to Schools After TX Shooting

In response to the shooting at Santa Fe High School in Texas, Polk County, FL, Sheriff Grady Judd has resolved to make sure every school in his county has an armed officer.

---

**From:** fva-list-bounces@lists.umanitoba.ca on behalf of Chris Russ <jcr6@reindeergraphics.com>  
**Sent:** Friday, February 17, 2017 10:21 AM  
**To:** Forensic Video Analysis  
**Cc:** Chris Russ  
**Subject:** Re: [FVA-List] Interesting read....  
**Attachments:** Untitled attachment 00254.txt

Tim,

We DO use statistical methods to improve images.

Three kinds of “maximum-likelihood” sharpeners immediately come to mind (Kuwahara, Median, and Bilateral filters). They all make best guesses as to the location of edges and along the way toss out what is calculated to be noise according to their respective models. Thus, if you take a “soft” image (basically something that is lacking information near the Nyquist frequency) you’re introducing new high frequency information (edges). It is strictly based upon the local area in the case of all of them, not based upon some library compiled by and upon who knows what.

One must be careful trusting data that is at the limit of resolution, particularly the sampling resolution because of Bayer patterns, JPEG/Wavelet compression, noise, and decimation. In a compression environment it may even be difficult to tell what the actual resolution is and this algorithm makes it worse.

This algorithm (fill in higher frequencies — even MOST frequencies — with data from a library because it is pretty) 1) doesn’t have a defensible basis, 2) can vary depending upon the library/training set used — even if it is a large training set!!, 3) is most likely trained upon something other than what you’re interested in, 4) even if trained on the “right things” that alone would introduce a bias toward what you want to see as opposed to what was actually there.

Imagine in the latent case if we built a training set upon a bunch of prints. Does a ridge run on through an area or should other minutia be put there? Can you depend upon any minutia or lack thereof that might be in an interpolated/hallucinated area? Even if it is perfectly plausible because the training set was filled with various kinds of minutia, doesn’t mean it is real.

Another example - facial recognition. We often get views of people where they are not looking directly at the camera. As the gaze angle exceeds 15°, a large part of the face is now missing, yet the datasets we compare faces to are usually straight on. One common trick is to assume bilateral symmetry and to try to fill in a pseudo-rotated face with a mirror image of the other side. DATA FROM THE SAME SOURCE, NO LESS. However we know (and it is really easy to demonstrate) that people are not truly bilaterally symmetric. It is true that bilateral symmetry is a sign of beauty (?? better health during childhood or even in the womb ??).

You can plainly see the difference in the attached images, and they are fairly symmetric! (Celebrities being beautiful people and all...)

Filling in data from unknown or possibly unrepeatable sources can only be worse. I agree with Tom, if anyone walked into court with this it would be a short-lived experience.



-Chris



Original

Left Symmetry

Right Symmetry



Original

Left Symmetry

Right Symmetry



ORIGINAL

LEFT SYMMETRY

RIGHT SYMMETRY





Original

Left Symmetry

Right Symmetry

reindeer graphics

**Chris Russ, Senior Developer**

phone: 919.342.0209

email: [jcr6@reindeergraphics.com](mailto:jcr6@reindeergraphics.com)

website: [www.reindeergraphics.com](http://www.reindeergraphics.com)

On Feb 17, 2017, at 1:06 AM, Bienvenu-Bate, Timothy <[tim.bate@police.vic.gov.au](mailto:tim.bate@police.vic.gov.au)> wrote:

I don't think Google intended it to be forensic in application, and I agree that it would be very dangerous to use it in a forensic context, but the general idea is not one that should be excluded out of hand – just handled with care. Before you send an outraged reply, please remember I'm talking about the whole problem with hallucination, or more particularly, using training data to implement a probabilistic inference of a large output image from a small input image.

The comments on the limitation of a small training set (small in the sense of the size of the true data set of all possible faces/lighting/positions etc.) and the bias it introduces is very valid, but even if the training set included every possible input/output pair, this would *still* be a bad algorithm to use. The idea, as alluded to, is to choose either the most likely output for a given input, or the least surprising one (slightly different) using some metric. This means that given a reduced set of pixels, even if perfect in all other ways, the algorithm will choose the most generic face that matches that input. Bad news for John Smith, great news for Chad Kroeger (I googled weird looking celebrities). The interpretation of the evidence if presented as a picture is also a big problem; the prejudicial effect would far outweigh the evidential value, most likely.

But this approach may (or may not) have more merit if, for example, it was used to consider various possible original images and determine the relative likelihoods that they resulted in the smaller image, or if the algorithm was trained with a set of images taken from a closed set where a closed population was suspected (must be person A, B or C). For faces, this is still far-fetched. But I can think of (and I have played with) other forensic image applications where the training set can be generated and the population is much smaller, or a relevant closed data set is available and more relevant.

So this particular algorithm is best left to Photoshop, but I just wanted to chip in that we shouldn't be too adverse to probabilistic Bayesian methods. We should be skeptical – we should *always* be skeptical –

but at the same time, I see this article as something that demonstrates future possibilities as well as presenting a threat.

In any case, great and interesting post, and I think all the replies have been very valid.

**Tim Bienvenu-Bate | Forensic Officer**

Audio Visual Unit | Victoria Police Forensic Services Department | Victoria Police

email: [tim.bate@police.vic.gov.au](mailto:tim.bate@police.vic.gov.au) | phone: (03) 8690 4210 | dx: 210547

address: Level 10, 313 Spencer Street Police Complex, 3008

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**From:** [fva-list-bounces@lists.umanitoba.ca](mailto:fva-list-bounces@lists.umanitoba.ca) [<mailto:fva-list-bounces@lists.umanitoba.ca>] **On Behalf Of** Mark Sugrue

**Sent:** Friday, February 10, 2017 6:53 AM

**To:** Forensic Video Analysis <[fva-list@lists.umanitoba.ca](mailto:fva-list@lists.umanitoba.ca)>

**Subject:** Re: [FVA-List] Interesting read....

The big issue, as Martino points out, is that these kinds of algorithms use pieces of their training set to 'imagine' what the original image might have looked like. The result isn't a 'restored' image, its just a new one that may or may not look anything like the original.

If you had a training set which contained photos of one ethnic group, for example, all the output results would look like that ethnic group regardless of what the test original images were. (Actually doing an experiment like that would be a great way to demonstrate the danger of this kind of algorithm).

On Fri, Feb 10, 2017 at 2:06 PM, Martino Jerian <[martino.jerian@ampedsoftware.com](mailto:martino.jerian@ampedsoftware.com)> wrote:

I think this kind of stuff is very dangerous for our field (and of course the headlines are misleading).

We just published today a post on the topic:

<https://blog.ampedsoftware.com/2017/02/10/googles-csi-like-algorithm-is-not-enhancing-images-its-creating-them/>

... and some time ago another on similar techniques

<http://blog.ampedsoftware.com/2016/09/21/be-conscious-of-the-algorithms-you-use-in-a-forensic-setting/>

I was already on the phone today with a couple of persons who were claiming that as an investigative tool this could be valuable (as an identikit), but, as explained in the post, I don't think it's a good idea.



Comments welcome!

--

Martino Jerian, CEO and Founder  
Amped Software - Forensic Video Analysis  
Amped SRL, AREA Science Park, Padriciano 99, 34149 Trieste, Italy  
Phone: [+39.040.3755333](tel:+39.040.3755333) - Fax: [+39.040.3755335](tel:+39.040.3755335) - Mobile: [+39.333.4455518](tel:+39.333.4455518)  
Mail: [martino.jerian@ampedsoftware.com](mailto:martino.jerian@ampedsoftware.com) - Web: [ampedsoftware.com](http://ampedsoftware.com)  
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On Fri, Feb 10, 2017 at 2:58 PM, Smit, Jim <[Jim.Smit@peelpolice.ca](mailto:Jim.Smit@peelpolice.ca)> wrote:

<https://thenextweb.com/insider/2017/02/08/google-figured-out-a-way-to-zoom-and-enhance-photos-just-like-in-the-movies/>

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Dr Mark Sugrue  
Chief Technology Officer

Kinesense, making [video evidence smarter](#)

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**From:** fva-list-bounces@lists.umanitoba.ca on behalf of Bienvenu-Bate, Timothy  
<tim.bate@police.vic.gov.au>  
**Sent:** Monday, February 20, 2017 6:39 PM  
**To:** 'Forensic Video Analysis'  
**Subject:** Re: [FVA-List] Interesting read....  
**Attachments:** Untitled attachment 00259.txt

Chris,

You make good points, but I think you misconstrue my post a little. I don't advocate using this approach in court, quite the opposite. I ask that if you read this, you do so with a generous frame of mind.

I characterise the problem of going from a low resolution image to a high resolution image as a problem of matching a point in a set  $L$  to a particular point in set  $H$ , where  $H$  is a far greater set than  $L$ . The issue is that there are many points in  $H$  that could all be selected with some reasonable justification and therefore additional constraints are needed in order to select one. These constraints are based on assumptions. I realise this is nothing new, just going into a bit more detail to explain my reasoning.

To briefly examine what I would characterise as the most common interpolation methods, bilinear, bicubic and the "windowed sinc" family through this lens, I would argue that the manner of selecting from the set  $H$  is based on very general signal processing ideas; pixels are likely to be a smooth transition from surrounding pixels, the derivative is often smooth as well, and that if we don't know the high frequencies, we should omit them. We know in many cases this is untrue; particularly with sharp edges (particularly bilinear and "sinc").

Filters like the Kuwahara (I've picked on one) of course resolve this by "knowing" that some images have sharp edges, and so it is designed to preserve them. But it models images as having blocky regions, and so the resulting selected image will get blocky artifacts. While we think of these filters being used to generate an output image from the provided low-resolution image, it can equivalently be thought of as selecting the image from the set  $H$  which best fits the model and data.

What all of these fail to do is incorporate what we know about the original image. Sure, we can select a method based on the content, and even tune parameters. Creating statistics of probabilities of a point in  $H$  given a point in  $L$  (or more likely, using image patches) is just another way of selecting the most "probable" point in  $H$ . This allows us to incorporate knowledge of our subject which we can't do with these other methods. This is what I mean by a statistical link.

I **don't** think Google's approach is appropriate for face enhancement, as I said.

- a) If we look at the case of a limited library, it will be biased towards faces (or face parts) which are in that library.
- b) If we look at the impossible case of an exhaustive library, it will select the most generic member of  $H$  that meets  $L$  (John Smith).
- c) There is no indication of uncertainty; if you gave it a single pixel, this approach (not Google's algorithm specifically) could extrapolate the "average" face, with no indication that while it is the "most likely", not "how much more likely".

I'm not advocating this "build up a library" approach for face enhancement, or necessarily for face anything, any more than any of the other posters. I am suggesting that we don't throw the baby out with the bathwater here though, particularly when I think that this only got thrown into the forensic limelight because of one reporter carelessly bandying about the CSI acronym. I think building up from a statistical database is likely to bear fruit in other ways. Given that



"Deep Learning" has shown so much power in video classification, it seems reasonable to think that other "training" approaches may demonstrate similar power in related video fields.

I certainly accept and also advocate that any use of these style of methods requires extreme caution. More perhaps than other methods, as what is really happening "under the hood" can become quite opaque. The old (apocryphal?) tank parable comes to mind (<https://neil.fraser.name/writing/tank/>). Even if it were a perfect world, we have already discussed that it is inappropriate for many purposes. Certainly we should tread carefully with enhancement, where humans may interpret "looking pretty" as "likely". While my own history was in what I would characterise as heuristic-based algorithms, as much as I resist, I think the future will see a lot more of these training-based approaches. Whether there is some good in them or not may be a point on which we cannot agree.

In any case, I really appreciate your considered responses Chris. You add a lot to these discussions and as always I hold your opinion in high regard, even if/when I don't entirely agree. I often feel that these discussions would work better in person, but for obvious reasons that doesn't seem likely.

Regards,  
Tim

**Tim Bienvenu-Bate | Forensic Officer**

Audio Visual Unit | Victoria Police Forensic Services Department | Victoria Police  
email: [tim.bate@police.vic.gov.au](mailto:tim.bate@police.vic.gov.au) | phone: (03) 8690 4210 | dx: 210547  
address: Level 10, 313 Spencer Street Police Complex, 3008

P.S. I also accept that data learnt from a dataset is in common usage already; for example, the standard QTs and Huffman codes in JPEG and related compression techniques.

---

**From:** fva-list-bounces@lists.umanitoba.ca [mailto:fva-list-bounces@lists.umanitoba.ca] **On Behalf Of** Vorder Bruegge, Richard W. (OTD) (FBI)  
**Sent:** Saturday, 18 February 2017 02:51  
**To:** Forensic Video Analysis  
**Subject:** Re: [FVA-List] Interesting read....

To answer address two of Chris' points...

(1) Yes - the use of bilateral symmetry for facial recognition is more of a problem than a benefit... Notre Dame (Pat Flynn or Kevin Bowyer would have been the PI) has done research that demonstrates this...  
and

(2) I would need to look up the specific studies, but the various psychological tests that have been done over the years are - actually - all consistent in the finding that the more symmetrical the face, the LESS appealing it is. Tests using supermodels - or comparable - created mirrored faces versus the nominal asymmetric faces (and controlled for such issues as recognition of the individual models) show a statistically significant difference - people find asymmetric faces more aesthetically pleasing. In one or two papers I think the authors draw a potential correlation to "the uncanny valley" - the idea that the closer a computer-generated face gets to being real, the "creepier" it gets to the viewer. Computer generated faces are far more likely to be symmetrical than asymmetrical, so it makes sense...

Richard W. Vorder Bruegge

Senior Photographic Technologist  
FBI - OTD - TASB  
Building 27958A, Pod E  
Quantico, VA 22135  
(703) 985-1192

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**From:** [fva-list-bounces@lists.umanitoba.ca](mailto:fva-list-bounces@lists.umanitoba.ca) <[fva-list-bounces@lists.umanitoba.ca](mailto:fva-list-bounces@lists.umanitoba.ca)> on behalf of Chris Russ  
<[jcr6@reindeergraphics.com](mailto:jcr6@reindeergraphics.com)>

**Sent:** Friday, February 17, 2017 10:21 AM

**To:** Forensic Video Analysis

**Cc:** Chris Russ

**Subject:** Re: [FVA-List] Interesting read....

Tim,

We DO use statistical methods to improve images.

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This algorithm (fill in higher frequencies — even MOST frequencies — with data from a library because it is pretty) 1) doesn’t have a defensible basis, 2) can vary depending upon the library/training set used — even if it is a large training set!!, 3) is most likely trained upon something other than what you’re interested in, 4) even if trained on the “right things” that alone would introduce a bias toward what you want to see as opposed to what was actually there.

Imagine in the latent case if we built a training set upon a bunch of prints. Does a ridge run on through an area or should other minutia be put there? Can you depend upon any minutia or lack thereof that might be in an interpolated/hallucinated area? Even if it is perfectly plausible because the training set was filled with various kinds of minutia, doesn’t mean it is real.

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Left Symmetry

Right Symmetry



Original

Left Symmetry

Right Symmetry



ORIGINAL

LEFT SYMMETRY

RIGHT SYMMETRY





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reindeer graphics

**Chris Russ, Senior Developer**

phone: 919.342.0209

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website: [www.reindeergraphics.com](http://www.reindeergraphics.com)

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So this particular algorithm is best left to Photoshop, but I just wanted to chip in that we shouldn't be too adverse to probabilistic Bayesian methods. We should be skeptical – we should *always* be skeptical – but at the same time, I see this article as something that demonstrates future possibilities as well as presenting a threat.

In any case, great and interesting post, and I think all the replies have been very valid.

**Tim Bienvenu-Bate | Forensic Officer**

Audio Visual Unit | Victoria Police Forensic Services Department | Victoria Police

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**Sent:** Friday, February 10, 2017 6:53 AM

**To:** Forensic Video Analysis <[fva-list@lists.umanitoba.ca](mailto:fva-list@lists.umanitoba.ca)>

**Subject:** Re: [FVA-List] Interesting read....

The big issue, as Martino points out, is that these kinds of algorithms use pieces of their training set to 'imagine' what the original image might have looked like. The result isn't a 'restored' image, its just a new one that may or may not look anything like the original.

If you had a training set which contained photos of one ethnic group, for example, all the output results would look like that ethnic group regardless of what the test original images were. (Actually doing an experiment like that would be a great way to demonstrate the danger of this kind of algorithm).

On Fri, Feb 10, 2017 at 2:06 PM, Martino Jerian <[martino.jerian@ampedsoftware.com](mailto:martino.jerian@ampedsoftware.com)> wrote:

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... and some time ago another on similar techniques

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I was already on the phone today with a couple of persons who were claiming that as an investigative tool this could be valuable (as an identikit), but, as explained in the post, I don't think it's a good idea.

Comments welcome!

--

Martino Jerian, CEO and Founder  
Amped Software - Forensic Video Analysis  
Amped SRL, AREA Science Park, Padriciano 99, 34149 Trieste, Italy  
Phone: [+39.040.3755333](tel:+390403755333) - Fax: [+39.040.3755335](tel:+390403755335) - Mobile: [+39.333.4455518](tel:+393334455518)  
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<https://thenextweb.com/insider/2017/02/08/google-figured-out-a-way-to-zoom-and-enhance-photos-just-like-in-the-movies/>

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Dr Mark Sugrue  
Chief Technology Officer

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**From:** fva-list-bounces@lists.umanitoba.ca on behalf of Edward Baker  
<Videoconsultantsnw@comcast.net>  
**Sent:** Friday, February 10, 2017 12:36 PM  
**To:** Forensic Video Analysis  
**Subject:** Re: [FVA-List] Interesting read....  
**Attachments:** Untitled attachment 00194.txt

Definitely interesting read... scary too. I think you have to applaud their attempts!

I wonder if they used multiple frames processed independently then averaged them... before they compared them to their training set.

(Technically improving their results since it would be derived from a greater amount of information already present).

Would that add more weighted value to their foundation before comparing them with a known data base?

Like most facial recognition applications your setting parameters to a "x" number for how many results you get. It's still up to a human to pick from the herd a potential suspect. (I've seen FR techs enter searches based off of a drivers license that was photo copied with magnification added which was then faxed to them).

Having said all that I've also seen far worse images published on the 6 o'clock news asking the public's help in identifying a suspect which usually results in an anonymous call which police do act on. (emphasis on anonymous)

And... I can't tell you the number of time I've sat across the interview table with a "fva processed image" telling the bad guy that our CSI folks are going process it...only to watch as the blood drains out of their face and their head drops down right before they give a confession.

Last idea: what if the folks at Google could marry the video amplification algorithm from MIT to theirs? Again would it only be "amplified" junk science?

Link to the MIT info: <http://people.csail.mit.edu/mrub/evm/>

Great insight from everyone!

Enjoy the weekend!

Ed Baker

On Feb 10, 2017, at 7:42 AM, Mark P. Porter <[MPPorter@tarrantcountytx.gov](mailto:MPPorter@tarrantcountytx.gov)> wrote:

We would have much better success herding cats and pushing pancake batter uphill than trying to regulate the CCTV industry.. ☺  
Happy Friday Ya'll!

**From:** [fva-list-bounces@lists.umanitoba.ca](mailto:fva-list-bounces@lists.umanitoba.ca) [<mailto:fva-list-bounces@lists.umanitoba.ca>] **On Behalf Of** Mark Sugrue  
**Sent:** Friday, February 10, 2017 9:34 AM  
**To:** Forensic Video Analysis  
**Subject:** Re: [FVA-List] Interesting read....

The only solution I can think of is some real regulation of the Camera/DVR industry. Then again, I've been saying that for years... :-)

On Fri, Feb 10, 2017 at 3:31 PM, Chris Russ <[jcr6@reindeergraphics.com](mailto:jcr6@reindeergraphics.com)> wrote:  
It's not just faces. Tattoos, LICENSE PLATES, any fine detail.

reindeer graphics

**Chris Russ, Senior Developer**  
phone: [919.342.0209](tel:919.342.0209)  
email: [jcr6@reindeergraphics.com](mailto:jcr6@reindeergraphics.com)  
website: [www.reindeergraphics.com](http://www.reindeergraphics.com)

On Feb 10, 2017, at 10:28 AM, Mark Sugrue <[mark@kinesensevca.com](mailto:mark@kinesensevca.com)> wrote:

It would be very tough to detect - some kind of cart with faces would possible work if you had a live camera.

If you only had a recording, it wouldn't be possible to detect I think.

And of course then the question in court will always be "can you prove this is a real recording?" - and we won't be able to.

On Fri, Feb 10, 2017 at 3:23 PM, Chris Russ <[jcr6@reindeergraphics.com](mailto:jcr6@reindeergraphics.com)> wrote:  
And now Mark has scared the crap out of me.

How would you detect that had occurred? Some kind of image standard in front of the camera that might precipitate detectable artifacts?

reindeer graphics

**Chris Russ, Senior Developer**  
phone: [919.342.0209](tel:919.342.0209)  
email: [jcr6@reindeergraphics.com](mailto:jcr6@reindeergraphics.com)  
website: [www.reindeergraphics.com](http://www.reindeergraphics.com)

On Feb 10, 2017, at 10:18 AM, Mark Sugrue  
<[mark@kinesensevca.com](mailto:mark@kinesensevca.com)> wrote:



The real danger is some unscrupulous CCTV camera or DVR manufacturer will build this in to claim higher resolution or better compression.

On Fri, Feb 10, 2017 at 3:14 PM, Crain, Kimber  
<[kimber.crain@kentcountymi.gov](mailto:kimber.crain@kentcountymi.gov)> wrote:

I saw this too... this is exactly what we've been fighting against for years now. I'm a little scared of what we'll be seeing produced by those who are only interested in quick results as opposed to scientific ones within law enforcement.

Kim Crain  
Scientific Support Unit Specialist  
Kent County Sheriff Department  
Grand Rapids, Mi

On Feb 10, 2017 9:07 AM, Martino Jerian  
<[martino.jerian@ampedsoftware.com](mailto:martino.jerian@ampedsoftware.com)> wrote:

I think this kind of stuff is very dangerous for our field (and of course the headlines are misleading).

We just published today a post on the topic:  
<https://blog.ampedsoftware.com/2017/02/10/googles-csi-like-algorithm-is-not-enhancing-images-its-creating-them/>

... and some time ago another on similar techniques  
<http://blog.ampedsoftware.com/2016/09/21/be-conscious-of-the-algorithms-you-use-in-a-forensic-setting/>

I was already on the phone today with a couple of persons who were claiming that as an investigative tool this could be valuable (as an identikit), but, as explained in the post, I don't think it's a good idea.

Comments welcome!

--

Martino Jerian, CEO and Founder  
Amped Software - Forensic Video Analysis  
Amped SRL, AREA Science Park, Padriciano 99, 34149 Trieste, Italy  
Phone: [+39.040.3755333](tel:+39.040.3755333) - Fax: [+39.040.3755335](tel:+39.040.3755335) - Mobile: [+39.333.4455518](tel:+39.333.4455518)  
Mail: [martino.jerian@ampedsoftware.com](mailto:martino.jerian@ampedsoftware.com) - Web: [ampedsoftware.com](http://ampedsoftware.com)  
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On Fri, Feb 10, 2017 at 2:58 PM, Smit, Jim  
<[Jim.Smit@peelpolice.ca](mailto:Jim.Smit@peelpolice.ca)> wrote:

<https://thenextweb.com/insider/2017/02/08/google-figured-out-a-way-to-zoom-and-enhance-photos-just-like-in-the-movies/>

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Dr Mark Sugrue  
Chief Technology Officer

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