

Curriculum Vitae for Ernest J. Koeberlein

Curriculum Vitae Of	Ernest J. Koeberlein
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Credentials Masters: Criminal Justice / Digital Forensics

EnCE, CCE, CISSP, CHFI, CEH, CBE, GCFE, iVe, GPS, CCLO/CCPA



Expertise In:

Call Detail Records / Cell Tower Locations

- Call Detail Record analysis in the criminal justice system provide a wealth of information that can help to identify suspects, in that they can reveal details as to an individual's relationships with associates, communication and behavior patterns, and even location data that can establish the approximate whereabouts of an individual (or at least their phone) during the beginning and possibly the end of the call.

Cell Phone / Mobile Device Forensics

- Cell phone and mobile device forensics is a branch of digital forensics relating to recovery of digital evidence or data from a mobile device under forensically sound conditions. Mobile devices can be used to save several types of personal information such as contacts, photos, notes, SMS and MMS messages, etc. Smartphones may additionally contain video, email, web browsing information, location information, and social networking messages and contacts. As mobile device technology advances, the amount and types of data that can be found on a mobile device is constantly increasing. Evidence that can be potentially recovered from a mobile phone may come from several different sources, including handset memory, SIM card, and attached memory cards such as SD cards.

Computer Forensics

- Computer forensics is a branch of forensic science which deals with the application of investigative analysis techniques on computers in order to retrieve and preserve evidence in a way that is legally admissible. This means that a major aspect of the science of computer forensics lies in the ability of the forensics expert to present findings in a way that is acceptable and usable by a court of law. The goal of computer forensics is the performance of a structured investigation on a computing device to find out either what happened or who was responsible for what happened, while at the same time maintaining a properly documented chain of evidence in a formal report.

Google Location Services Mapping

- Android tablets and mobile phones have the ability to report the device's location to online services, usually with high accuracy if the device has GPS capability turned on. Knowing your location, and tracking your location history is very important to many android applications. For example, a weather widget on your home screen would be more useful if it displayed the weather in your current location, rather than in a pre-set home location. Google Location History, if turned on, tracks the device's location, sometimes at a minute by minute rate, with

the best location measurements made from either GPS, known wireless access points, or cell towers in the vicinity. This data is then stored indefinitely on Google servers, and can be downloaded and analyzed.

Vehicle Infotainment / Navigation Systems

- With the proper training, certain digital forensic tools and techniques can be used to perform logical and/or physical acquisitions and analysis of a vehicle's infotainment and telematics system. We can acquire user data from vehicles, and analyze the vast amount of data such as recent destinations, favorite locations, call logs, contact lists, SMS messages, etc., and even the navigation history of everywhere the vehicle has been (depending upon make and model of vehicle). Many systems record events such as when and where a vehicle's lights are turned on, which doors are opened and closed at specific locations, and even where the vehicle is when Bluetooth devices connect. The tools involved interface directly with vehicle systems via specially designed hardware.

GPS Mapping

- GPS is defined as "A system of radio-emitting and -receiving satellites used for determining positions on the earth. The orbiting satellites transmit signals that allow a GPS receiver anywhere on earth to calculate its own location through trilateration. GPS is incorporated in many of our daily objects and serve many purposes in our daily navigation. Drivers use GPS when navigating streets, pedestrians use GPS on mobile devices to navigate walking paths, and GPS devices are being used to monitor human and animal movement. With this data, we can create customizable maps and profiles from GPS data from various devices. Input can be in the form of driving routes, street addresses, or simple GPS coordinates from varying sources such as ankle bracelets, GPS tracking devices, vehicle navigation systems, EXIF data embedded in camera images, social media location metadata, cell phone location data, etc. When used by skilled professionals, GPS provides mapping data of the highest potential accuracy.

Social Media Preservation

- The ubiquitous nature of social media has made it an unrivaled source of evidence. Particularly in the areas of criminal, personal-injury, employment, and family law, social media evidence has played a key role in countless cases. But the use of social media is not limited to these practice areas. Businesses of every size can be affected by social media – both in the duty to preserve social media content and in the desire to access relevant social media evidence in litigation. Preservation of social media evidence, of course, is only one part of the process. Parties will want to obtain relevant social media evidence as part of their informal and formal discovery efforts. We can aggregate comprehensive social media content and web-based data into a single user interface, collect vital metadata in a legally defensible manner and preserve the chain of custody.

Surveillance Video DVR Preservation & Recovery

- It is a common misconception that once a digital DVR system is "rolled over", old data cannot be recovered. Even when the security DVR says the data you are looking for isn't there, it very well could be. It is true though that traditional computer forensic techniques can fall short with CCTV DVR systems due to the proprietary filesystems and data used. The processes that we use for acquiring video and metadata from CCTV DVRs is a forensically sound manner in the field or in the lab. We can bypass DVR passwords and archaic menus to quickly extract evidence directly from the DVR hard drive. Even if the DVR was toasted in a fire, or destroyed by a subject, if the hard drive works, our process can recover the data. Using traditional methods to export video can take days, if not weeks on some systems. By bypassing the operating system, our process allows us to accomplish the same (and potentially much more) in a matter of hours, not days.

Pre-Qualified Appointments:

County of Los Angeles Superior Court Panel of Expert Witnesses

- Computer Forensics
- Cell Phone Forensics
- GPS Mapping & Analysis

Qualified as Expert Witness at:

- County of Los Angeles Superior Court: Clara Shortridge Foltz Criminal Justice Center
- County of Los Angeles Superior Court: Compton Courthouse
- County of Los Angeles Superior Court: Inglewood Courthouse
- County of Los Angeles Superior Court: Pomona Courthouse
- County of Los Angeles Superior Court: Torrance Courthouse
- County of Los Angeles Superior Court: Van Nuys Courthouse

Work Experience:

IncidentResponse.us	<i>CEO & Senior Digital Forensic Examiner</i>	2008 - Present
Raytheon: Mission & Operations Services / DSIO	<i>Chief of IT Security</i>	2006 - 2015
NASA / Jet Propulsion Laboratory	<i>Employee / Contractor</i>	1985 - 2015

College Education:

Masters of Arts: Criminal Justice / Digital Forensics	Desales University	2011
<ul style="list-style-type: none"> ➤ GPA 4.0: Top of Class ➤ ΑΦΣ National Criminal Justice Honors 		
Bachelors of Science: Physics	Allegheny College	1989

Certifications:

Cellebrite Drone Data Analysis	CDDA	2018
<ul style="list-style-type: none"> ➤ An advanced level program designed to teach how to recover, analyze and generate reports based on data obtained from unmanned aircraft systems (UAS), also known as drones. Best practices in disassembling a drone to acquire flight data embedded within the device. In addition to the embedded flight data, how to use a UFED Touch2 or UFED 4PC to create forensic images of associated storage media containing photo and video files recorded by onboard or attached cameras. Once the data is acquired, how to analyze the data and to correlate data found in smartphone drone applications with flight data recovered from the device. Overall the certification proves knowledge in Drone Awareness, Legal Guidelines and Terms, sUAS Components, sUAS Extractions, File System Artifacts, and sUAS Application Data. 		

DVR Examiner Certified User		2017, 2018
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- The DVR Examiner User Certification certifies its graduates on how to use DVR Examiner software for the forensic recovery of DVR data and the underlying concepts behind how DVR Examiner works. The certification training involves lecture portions, followed by hands on examples of the concepts presented in the lectures. Only upon successful completion of a written exam and practical tests, will the student be certified.

Certified Forensic Explorer Examiner 2015, 2018

- Forensic Explorer is a tool for the preservation, analysis and presentation of electronic evidence. Primary users of this software are law enforcement, government, military and corporate investigations agencies.

Certified BlackLight Examiner (Macintosh Forensics) 2014

- The Certified BlackLight Examiner designation is given to students who can pass a BlackLight-specific proficiency test after completion of the BlackLight Tool Training course.

Cellebrite Certified Physical Analyst 2014

- Cellebrite is the leading training provider for cell phone forensics training for law enforcement, military, intelligence and private sector practitioners around the world. The classes are designed to teach students core mobile forensics concepts. Cellebrite Certified Physical Analyst (CCPA) course is an advanced level certification that certifies participants have gained knowledge and practical skills using UFED Physical Analyzer software conduct advanced analysis on mobile devices, including advanced search and analysis techniques to verify and validate findings. This class will also introduce students how to generate reports on technical findings.

Blackthorn / GPS Certification 2014

- Blackthorn is the leading GPS forensics tool used by forensic examiners and investigators for acquiring, examining and analyzing data from aviation, maritime, portable automotive, and handheld GPS devices. Certification holders have shown a comprehensive understanding of how to use Blackthorn and how the Global Positioning System works. The certification includes a practical exercise in which the investigator will be required to apply the techniques of acquiring data from devices, conducting an analysis, and drafting a report. Investigators will have also taken a written exam to obtain Blackthorn Certification.

Cellebrite Certified Logical Operator 2014

- The CCLO is a valuable mobile forensic certification that certifies participants who have gained the knowledge and practical skills required to handle mobile devices in a forensically sound manner, use the UFED Touch, UFED Touch2 and UFED 4PC, conduct extractions, basic analysis, and reports on extracted data.

Vehicle Forensics Certification 2014, 2018

- The Vehicle Forensics & iVe Certification provides that a certified investigator has the necessary skills to acquire and analyze data from OEM-installed infotainment and telematics systems, and prepare the investigator to qualify as an expert witness and testify in court. This certification shows that the investigator has a solid understanding of vehicle networks and how data is transmitted between the various electronic control units in a vehicle. The certification is focused on OEM-installed infotainment and telematics systems such as Microsoft SYNC™, MyFord Touch™, COMAND™, OnStar™, Uconnect™, ConnectedDrive™, Entune™, Mylink™, IntelliLink™ and CUE™.

Mobile Phone Seizure Certification 2013

- The Mobile Phone Seizure Certification Examination identifies those who have successfully passed the examination as proficient in the identification, collection and preservation of mobile devices.

Certified Cellebrite Advanced Smart Phone Forensic Investigator 2013

EC-Council Certified Ethical Hacker 2012

- A Certified Ethical Hacker is a skilled professional who understands and knows how to look for weaknesses and vulnerabilities in target systems and uses the same knowledge and tools as a malicious hacker, but in a lawful

and legitimate manner to assess the security posture of a target system(s). The CEH credential certifies individuals in the specific network security discipline of Ethical Hacking from a vendor-neutral perspective. The Certified Ethical Hacker (CEH) is an intermediate-level credential offered by the International Council of E-Commerce Consultants (EC-Council). It's a must-have for IT professionals pursuing careers in ethical hacking. CEH credential holders possess skills and knowledge on hacking practices in areas such as footprinting and reconnaissance, scanning networks, enumeration, system hacking, Trojans, worms and viruses, sniffers, denial-of-service attacks, social engineering, session hijacking, hacking web servers, wireless networks and web applications, SQL injection, cryptography, penetration testing, evading IDS, firewalls, and honeypots.

Certified Cellebrite Mobile Phone Forensic Investigator 2012

Computer Hacking Forensic Investigator CHFI 2011

- Computer hacking forensic investigation is the process of detecting hacking attacks and properly extracting evidence to report the crime and conduct audits to prevent future attacks. The CHFI certification validate the candidate's skills to identify an intruder's footprints and to properly gather the necessary evidence to prosecute in the court of law.

California Private Investigator License #27470 2011

- A private investigator is an individual who amongst other duties (1) investigates crimes, (2) investigates the identity, business, occupation, character, etc., of a person, (3) investigates the location of lost or stolen property, (4) investigates the cause of fires, losses, accidents, damage or injury, or (5) secures evidence for use in court.

CompTIA Security+ Certification Security + 2010

- CompTIA Security+ is the certification globally trusted to validate foundational, vendor-neutral IT security knowledge and skills. As a benchmark for best practices in IT security, this certification covers the essential principles for network security and risk management. CompTIA Security+ meets the ISO 17024 standard and is approved by U.S. Department of Defense to fulfill Directive 8570.01-M requirements.

Certified Information Systems Security Professional CISSP 2010

- The CISSP designation is a globally recognized, vendor-neutral standard for attesting to an IT security professional's technical skills and experience in implementing and managing a security program. The CISSP is a certification sought by IT professionals with job titles such as security auditor, security systems engineer, security architect and chief information security officer, among others. To become a CISSP, the candidate must pass a six-hour long exam, consisting of 250 questions in multiple choice and "advanced innovative" formats which tests the candidate's knowledge and understanding in eight domains drawn from the more extensive (ISC)2 Common Body of Knowledge: security and risk management, asset security, security engineering, communications and network security, identity and access management, security assessment and testing, security operations and software development security. Candidates are required to have a minimum of five years full-time experience in at least two of the eight domains. To maintain the CISSP certification, candidates are required to earn at least 40 continuing professional education credits each year.

Certified Computer Examiner CCE 2010

- he CCE certification is widely considered to be the most prestigious non-vendor specific forensic certification available. This certification is available to all examiners working publically or privately. The foundation of this certification maintains a fair, uncompromised process for certifying the competency of forensic computer examiners and sets high forensic and ethical standards for forensic computer examiners.

EnCase Certified Examiner EnCE 2009

- The EnCase® Certified Examiner(EnCE®) program certifies both public and private sector professionals in the use of Guidance Software's EnCase computer forensic software. EnCE certification acknowledges that professionals have mastered computer investigation methodology as well as the use of EnCase software during complex computer examinations. Recognized by both the law enforcement and corporate communities as a

symbol of in-depth computer forensics knowledge, EnCE certification illustrates that an investigator is a skilled computer examiner.

Professional Memberships, Organizations & Task Forces:

Los Angeles FBI Citizens' Academy Alumni Association

- The Federal Bureau of Investigation recognizes the importance of forging strong alliances with local communities and maintaining collaborative relationships with community leaders. To accomplish this directive, the FBI developed and implemented the FBI Citizens Academy program. Delivered throughout the country, the FBI Citizens Academy program is an 10 week intensive, interactive class specifically designed to educate civilians about the inner working, roles and responsibilities of the FBI Agency, and interface how local communities and citizens play a key role in the Agency's successful operation.

Delivered in an intimate classroom setting, select students cover a curriculum that includes counter terrorism, white collar crimes, organized crime, cyber crimes, civil rights and other FBI priorities. All classes are taught by the Special Agent in Charge (SAC), Assistant Special Agents in Charge (ASAC's), Supervisory Special Agents (SSA's), and Field Special Agents (SA's). Participants also partake in a live fire day at the range where they learn about firearms and weapons safety.

Each member of the FBI Los Angeles Citizens Academy Association is a graduate of the 10-week FBI Los Angeles Citizens Academy

Federal Bureau of Investigation Infragard

- InfraGard is a partnership between the FBI and members of the private sector. The InfraGard program provides a vehicle for seamless public-private collaboration with government that expedites the timely exchange of information and promotes mutual learning opportunities relevant to the protection of Critical Infrastructure. With thousands of vetted members nationally, InfraGard's membership includes business executives, entrepreneurs, military and government officials, computer professionals, academia and state and local law enforcement; each dedicated to contributing industry specific insight and advancing national security.

United States Secret Service/Department of Homeland Security: Electronic Crime Task Force, Los Angeles

- Computers and other electronic devices are now the facilitators of criminal activity or the target of such, compelling the involvement of the Secret Service in combating cybercrime. The perpetrators involved in the exploitation of such technology range from traditional fraud artists to violent criminals - all of whom recognize new opportunities to expand and diversify their criminal portfolio.

To bring these perpetrators to justice, the Secret Service developed a new body, the Electronic Crimes Task Force (ECTF), to increase the resources, skills and vision by which state, local, and federal law enforcement agencies team with prosecutors, private industry and academia to fully maximize what each has to offer in an effort to combat criminal activity. The common purpose is the prevention, detection, mitigation, and aggressive investigation of attacks on the nation's financial and critical infrastructures.

International Association of Computer Investigative Specialists (IACIS)

- The International Association of Computer Investigative Specialists - IACIS is an international volunteer non-profit corporation composed mostly of law enforcement professionals dedicated to education in the field of forensic computer science. IACIS members represent Federal, State, Local and International Law Enforcement professionals. IACIS members have been trained in the forensic science of seizing and processing computer systems.

IACIS offers professional training in the seizure and processing computer systems. This training incorporates forensic methods for searching seized computers in accordance with the rules of evidence and laws of search and seizure. This includes evidence that has been hidden, concealed, encrypted, protected with passwords, software time-bombs, trojan horses. IACIS provides an opportunity to network with other law enforcement officers trained in computer forensics, to share and learn from other experiences, and develop a pool of expert assistance to draw upon.

IACIS is accredited by The Forensic Specialties Accreditation Board ("FSAB") - an independent board established to accredit professional bodies that certify forensic scientists and other forensic specialties

International Association of Computer Investigative Specialists (IACIS) Research and Development Subcommittee

- Current Member of the IACIS R&D subcommittee.
- The Research and Development Subcommittee of the International Association of Computer Investigative Specialists will be a crucial support service for IACIS and the broader digital forensics community by being a comprehensive knowledge base for the field of digital forensics, through collating and verifying existing digital forensics knowledge, and conducting cutting edge, and relevant research, to advance digital forensics knowledge.
- The Research and Development Subcommittee of the International Association of Computer Investigative Specialists supports IACIS in a number of manners. The first is through consolidating the digital forensics knowledge on an ongoing basis within the institution, so that our institutional knowledge is preserved and maintained for the benefit of our members. The second is by providing opportunities for digital forensics research that meets acceptable scientific standards for our members to grow the digital forensics knowledge base. The third is to leverage of our research capacity to develop actionable business intelligence for the IACIS leadership, to assist in the ongoing management of the organization.

International Society of Forensic Computer Examiners (ISFCE)

- The purpose of the ISFCE is to:
 - Professionalize and further the science of digital forensics
 - Provide a fair, vendor neutral, uncompromised process for certifying forensic computer examiners
 - Set high forensic and ethical standards
 - Conduct research and development into new and emerging technologies and methods in the science of digital forensics

Institute of Electrical and Electronics Engineers (IEEE)

- IEEE and its members inspire a global community to innovate for a better tomorrow through highly cited publications, conferences, technology standards, and professional and educational activities. IEEE is the trusted “voice” for engineering, computing, and technology information around the globe.

IEEE - Aerospace and Electronic Systems Society

- Interests cover the organization, systems engineering, design, development, integration, and operation of complex systems for space, air, ocean, or ground environments. These systems include but are not limited to navigation, avionics, mobile electric power and electronics, radar, sonar, telemetry, military, law-enforcement, automatic test, simulators, and command and control.

IEEE - Antennas and Propagation Society

- Interests include antenna analysis, design, development, measurement, and testing; radiation, propagation, and the interaction of electromagnetic waves with discrete and continuous media; and applications and systems pertinent to antennas, propagation, and sensing, such as applied optics, millimeter and sub-millimeter-wave techniques, antenna signal processing and control, medical applications, radio astronomy, and propagation and radiation aspects of terrestrial and space-based communication.

IEEE – Computer Society

- The IEEE Computer Society is the world's leading membership organization dedicated to computer science and technology. Serving more than 60,000 members, the IEEE Computer Society is the trusted information, networking, and career-development source for a global community of technology leaders that includes researchers, educators, software engineers, IT professionals, employers, and students.

ASTM International: Committee E30 on Forensic Sciences

- ASTM International, formerly known as American Society for Testing and Materials, is an international standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and services.

ASTM Committee E30 on Forensic Sciences was formed in 1970. The Committee has jurisdiction of 51 standards, published in the Annual Book of ASTM Standards, and has 10 subcommittees that maintain jurisdiction over these standards. The Committee Scope is the promotion of knowledge and development (test methods, guides, practices, classifications, and terminology) for, but not limited to, definitions, methods, and standard reference materials for the collection, preservation, scientific examination, preparation and reports relating to physical evidence for forensic purposes and the general practice of forensic science.

ASTM International: Subcommittee E30.11 - Interdisciplinary Forensic Science Standards

- The Interdisciplinary Forensic Science Standards subcommittee is responsible for standards such as:

- E620-18 Standard Practice for Reporting Opinions of Scientific or Technical Experts
- E678-07(2013) Standard Practice for Evaluation of Scientific or Technical Data
- E860-07(2013)e2 Standard Practice for Examining And Preparing Items That May Become Involved In Criminal or Civil Litigation
- WK23009 Guide for Case Review of Forensic Examinations
- WK40039 Guide for Forensic Science Training, Continuing Education, and Professional Development Programs

ASTM International: Subcommittee E30.12 – Digital and Multimedia Evidence

- The Digital and Multimedia Evidence subcommittee is responsible for standards such as:
 - E2678-09(2014) Standard Guide for Education and Training in Computer Forensics
 - E2763-10 Standard Practice for Computer Forensics
 - E2916-13 Standard Terminology for Digital and Multimedia Evidence Examination
 - E3046-15 Standard Guide for Core Competencies for Mobile Phone Forensics
 - WK61709 Standard Practice for Data Retrieval from Digital CCTV System
 - WK63926 Repair and Recovery of Damaged Audio Media

International Information Systems Security Certification Consortium (ISC)²

- (ISC)²: The World's Leading Cybersecurity and IT Security Professional OrganizationThe mission of the Consortium is to contribute to the health of the information landscape by offering gold-standard certifications while maintaining a body of critical knowledge, including principles and terms that help define global industry standards.

Espionage Research Institute International (ERII)

- The mission of the Espionage Research Institute International is to:
 - Educate and advance best practices in the counterespionage / counterintelligence & TSCM community through excellence, applied learning, and research that examines issues of strategic importance to the sector.

Association of Court Panel Investigators

- Helping indigent defendants receive a fair trial and ensuring they get what they need and deserve for their defense.

California Attorneys for Criminal Justice (CACJ)

- CACJ is the country's largest statewide organization of criminal defense lawyers and allied professionals. The specific purposes of CACJ are:
 - to defend the rights of persons as guaranteed by the United States Constitution, the Constitution of the State of California and other applicable law;
 - to preserve due process and equal protection of the law for the benefit of all persons; to enhance the ability of its members to discharge their professional responsibilities through educational programs, publications and mutual assistance; and
 - to protect and foster the independence of the criminal defense lawyer and to improve the quality of the administration of criminal law.

National Defender Investigator Association (NDIA)

- The National Defender Investigator Association (NDIA) is the only international organization to represent a constituency dedicated solely to the investigative arm of indigent defense

International Association of Cyber & Economic Crime Professionals (IACECP)

- The IACECP strengthens its members' ability to combat cyber and economic crime through professional credentialing that engages innovative and robust learning platforms to certify participants in several specialized fields. Acquired skill sets are reinforced through the active exchange of ideas and resources among IACECP's international membership.

For four decades, the National White Collar Crime Center (NW3C)'s premier training and technical support has enabled all spectrums of law enforcement to prevent, investigate, and prosecute cyber and economic crimes. The IACECP's resources and solutions adhere to NW3C's established high standards of integrity and quality.

National Association of Criminal Defense Lawyers

- The National Association of Criminal Defense Lawyers (NACDL) encourages, at all levels of federal, state and local government, a rational and humane criminal justice policy for America -- one that promotes fairness for all; due process for even the least among us who may be accused of wrongdoing; compassion for witnesses and victims of crime; and just punishment for the guilty.

Such a policy respects cherished civil rights and liberties that are fundamental to our democracy. Citizens have a right to expect privacy in their homes, vehicles, and communications; a right not to be deprived of their liberty or property without due process of law; and a right to consult counsel of their choice without it being used against them. America fought for and declared its independence to preserve these rights, and our Founding Fathers inscribed them into the Constitution.

The Association of Digital Forensics, Security, and Law (ADFSL)

- The ADFSL focus on research and curriculum is of value to both academic and practitioner audiences. The primary audience includes those individuals who are interested in developing curriculum and teaching methods as well as conducting research related to the consideration of digital forensics, security and law.

The audience also includes practitioners who consider digital forensics to be a resource that needs to be understood, taught and developed. Such practitioners reside in a broad spectrum of functions, including information technology, security, government and law.

The mission of the ADFSL is to provide an avenue for academics and practitioners to share academic needs, experience and research in the areas of digital forensics, security and law and in particular the intersection of those areas. Two avenues that the association will focus on are a quarterly journal and an annual conference.

ΑΦΣ National Criminal Justice Honors Society

- Alpha Phi Sigma recognizes academic excellence of Undergraduate and Graduate students of Criminal Justice, as well as Juris Doctorate students.

The goals of Alpha Phi Sigma are to honor and promote academic excellence, community service, educational leadership, and unity.

Alpha Phi Sigma is the only Criminal Justice Honor Society which is a certified member of the Association of College Honor Societies and affiliated with the Academy of Criminal Justice Sciences.

Association of Certified Fraud Examiners (ACFE)

- The ACFE is the world's largest anti-fraud organization and premier provider of anti-fraud training and education. Together with more than 80,000 members, the ACFE is reducing business fraud worldwide and inspiring public confidence in the integrity and objectivity within the profession.

Criminal Courts Bar Association

- The Criminal Courts Bar Association is a county wide organization of criminal defense lawyers in both public and private practice, law students, allied professionals, prosecutors, judges and private individuals. The goals of the Criminal Courts Bar Association are the protection of individual rights and liberties, improvement of the Criminal Justice System, enhancement of the Criminal Law Practitioners, and the continuing education of the Criminal Defense Bar.

International Crime Scene Investigators Association

- The International Crime Scene Investigators Association was created to assist law enforcement personnel and others who are involved in the processing of crime scenes. The discipline of crime scene processing is such a unique field in forensic science and law enforcement that this discipline needed its own organization. Crime scene processing is a multidisciplinary function. Crime scene processors, must have a working knowledge of all the disciplines in forensic science and apply that knowledge to the documentation of the crime scene.

American Bar Association

- The ABA provides law school accreditation, continuing legal education, information about the law, programs to assist lawyers and judges in their work, and initiatives to improve the legal system for the public. It "provides law school accreditation, continuing legal education, information about the law, programs to assist lawyers and judges in their work, and initiatives to improve the legal system for the public.

Los Angeles County Bar Association

San Bernardino County Bar Association

Armed Forces Communications & Electronic Association (AFCEA)

- AFCEA is a professional association that connects innovative people, great ideas and vital solutions to advance global security. This enables military, government, industry and academia to align technology and strategy to meet the needs of those who serve. AFCEA provides a forum for military, government and industry communities to collaborate so that technology and strategy align with the needs of those who serve. Through its established worldwide network of individual members, chapters and member organizations across the globe, AFCEA has led the ethical exchange of information for nearly 70 years, with roots that trace back to the U.S. Civil War.

Law Enforcement and Emergency Services Video Association International, Inc. (LEVA)

- Committed to provide advanced training and certification in the science of forensic video analysis. LEVA serves as a key resource providing opportunities for professional development through quality training and informational exchange.

Airborne Law Enforcement Association (ALEA)

- To support, promote and advance the safe and effective utilization of aircraft by governmental agencies in support of public safety missions through training, networking, advocacy and educational programs.

Digital Forensics Related Training/Seminars:

Vehicle Forensics & iVe Certification	2018	40 hours
Cellebrite Drone Data Analysis (CDDA) Course	2018	24 hours
Techno Security & Digital Forensics Conference (San Antonio)	2018	24 hours
2 nd Annual Cellebrite Americas User Forum	2018	8 hours
Paraben Forensic Innovations Conference	2018	24 hours
Part 107 Test Prep: Dart Drones	2018	8 hours
Drone Pilot Training: Dart Drones	2018	8 hours
Scientific Working Group on Digital Forensics/SWGDE (New Brunswick)	2018	32 hours
Complete Forensic Video Acquisition and Processing	2018	40 hours
Forensic Explorer Certified Examiner Certification Class	2018	32 hours
Python for Advanced Mobile Forensic Analysis	2018	40 hours
Scientific Working Group on Digital Forensics/SWGDE (Houston)	2018	32 hours
DVR Examiner User Certification	2017	24 hours
Preparing for Lab Accreditation	2017	36 hours
Scientific Working Group on Digital Forensics/SWGDE (UCLA)	2017	8 hours
GeoTime Call Detail Records Processing Training	2017	8 hours
Real Time Cell Phone Investigations	2017	16 hours
OCDLA / CACJ Criminal Justice Seminar	2017	8 hours
OCDLA / CACJ Criminal Justice Seminar	2016	8 hours
Enfuse Conference 2016	2016	20 hours
SANS FOR585:Advanced Smartphone Forensics	2015	36 hours
CEIC Conference 2015	2015	20 hours
Cell Data and Mapping-Police Technical @ WSIN	2015	16 hours
GetData Forensics: Forensic Explorer Examiner	2015	24 hours
Mobile Forensics World 2014	2014	36 hours
SANS FOR518: Mac Forensic Analysis	2014	36 hours
Vehicle Forensics & iVe Certification	2014	24 hours

SANS FOR408: Windows Forensic Analysis	2014	36 hours
BlackLight Tool Training (Mac OSX/iOS)	2014	16 hours
Cellebrite Mobile Device Examiner (CCLO/CCPA) Course	2014	24 hours
GPS Forensics	2014	24 hours
2014 PICA Annual Education Conference	2014	16 hours
Cell Call Detail Record Analysis & Cell Tower Mapping	2013	16 hours
Cellebrite Advanced Smart Phone Extraction	2013	32 hours
Open Source Intelligence Training	2012	8 hours
Cellebrite Logical and Physical Cell Phone Extraction	2012	40 hours
Graduate Class Forensic Science & the Courtroom	2011	12 weeks
Graduate Class Computer Hacking Forensic Investigation	2011	12 weeks
Graduate Class Hacking Countermeasures & Techniques	2011	12 weeks
Graduate Class Advanced Topics in Digital Forensics	2011	12 weeks
Graduate Class Issues in Criminal Law, Procedure, Justice	2011	24 weeks
Graduate Class Ethical Hacking Techniques	2011	12 weeks
Graduate Class Computer Forensics	2010	18 weeks
Information Systems Security Review Training	2010	70 hours
Graduate Class Network Forensics	2010	12 weeks
GSI/Encase: Computer Forensics 1	2009	32 hours
GSI/Encase: Advanced Computer Forensics	2009	32 hours
GSI/Encase: Network Intrusion Investigations	2009	32 hours
GSI/Encase: Field Intelligence Network Forensics	2009	32 hours
GSI/Encase: Computer Forensics 2	2009	32 hours
GSI/Encase: Advanced Internet Examinations	2009	32 hours
GSI/Encase: EnScript Programming	2009	32 hours
GSI/Encase: EnCE Prep	2009	24 hours

FBI / Infragard Training:

FBI Citizens Academy: Class of 2011

FBI Joint Regional Intelligence Center – Pre Incident Indicators

FBI Joint Regional Intelligence Center Liaison Officer Training

FBI/Orange County Sheriff's – Passive Interview & Deception Detection

FBI/Naval Postgraduate School - Center for Asymmetric Warfare Cyber Attack & Security Exercise

Career Related Awards:

SAN's Lethal Forensicators Unit Coin:

- *“The Coin, Round Metal Object (RMO), is designed to be awarded to those who demonstrate exceptional talent, contributions, or helps to lead in the digital forensics profession and community. The Coin is meant to be an*

honor to receive it; it is also intended to be rare. Those who join the Lethal Forensicators Unit will have all privileges and recognition”

NASA Class 1 New Technology Disclosure Award

Voyager 2 Project Neptune Encounter Mission Award

NASA Achievement Award: Voyager Flight Team, Neptune Encounter

NASA Achievement Award: Multimission Operations System Office Support Team

NASA Achievement Award: Voyager Flight Team, Uranus Encounter

NASA Achievement Award: Ulysses Mission Design and Ops Engineering Team

Raytheon: Outstanding Performance Contribution Award (7 times)

Raytheon: Security Technology Award (2 times)

Raytheon: Extraordinary Contribution Award (5 times)

Continuing Education, Seminars, Workshops, Forums, & CLE Type Training:

Examining GPS Devices Using EnCase / Guidance Software Inc.

File Recovery using Hash Block Map Analysis / Guidance Software Inc.

Protecting Your Assets in a Virtual Culture / FBI / University of Southern California

Understanding Assets and the Virtual Culture / Dr. Blaine Burnham / USC

Cross-Examining Expert Witnesses / Traci Owens

Using Technology in the Courtroom / Cris Arguedas & Chris Ritter

NAS & the State of Scientific Evidence / Professor Edward Imwinkelried

Analyzing Audio & Video Evidence / James Griffin

Case Study: State v Fausto: Bias & Uncertainty in the Quest for Justice / Ted Vosk

Cellular Phone Evidence: Data Extraction & Documentation/ Det. Cindy Murphy

Decoding Windows Prefetch / James Habben / Guidance Software Inc.

Email Investigations with EnCase v7 / Manfred Hatzesberger / GSI

The Attorney / Private Investigator Relationship / David Queen, Esq.

Computer Forensics: A Criminal Defense Perspective / Kevin Ripa

Evaluating and Challenging Forensic Identification Evidence / Professor M. Saks

Ares and Lime Pro Peer to Peer File Sharing Software Analysis

Ubiquity Forensics – Your iCloud and You

Trademark Infringement and Piracy/ Kris Buckner

Using the Web to Investigate Government Experts / Richard Demarest, JD

Windows 8 Forensic Artifacts / Guidance Software Inc.

The Scientific Method: Defending Your Case with Superior Science / Andrea Roth

Internet & Mobile Forensics with Internet Evidence Finder / Jad Saliba

Vehicle Infotainment Systems and the Data They Store / Ben LeMere

Admissibility: Getting Defense Science to the Jury / Judge Roderick Kennedy

Cognitive Bias / William C. Thompson

Protecting Proprietary Information / Raytheon Company

Mac Essentials and the HFS+ File System / Sarah Edwards / SANS Institute

OSX Advanced Analysis Topics / Hal Pomeranz / SANS Institute

Windows Digital Forensics and Advanced Data Triage

Email Forensics

Web Browser Forensics

Legal and Technology Developments
Anti-Anti-Forensics in Action / SANS Institute
Intellectual Property Theft: Tracking the Bits and Bytes
New Advances in Digital Forensics
Writing Expert Reports and Providing Expert Testimony
Integrating GPS Analysis into Digital Investigations
United States Secret Service: Electronic Crime Task Force Quarterly Meeting 2017.1
Cybersecurity and the Internet of Things (IoT) / Ernst Young
Artifacts in the Cloud and the Impact on Forensics / Tayfun Uzun
From Intake to Court: Using Case Management to Stay on Track
Issues trending in algorithms, computer code and IP law in the Crim Justice System
Live Memory Forensics/ High Technology Crime Investigation Association
EnCase v7 Evidence Processor / Guidance Software Inc.
Security for Critical Infrastructure and Other Federated Systems / Dr. B Clifford / USC
Carpe Datum... Seize the Data: Computer Forensics Evidence / Rick Albee
Investigating Crime Labs / Jennifer Friedman
Effective Use of Data Forensics / Aaron Hughes
Using Online Technology in Your Investigation / William Gallagher
Finding, Funding, and Using an Expert / Steve Benjamin
Investigating the Government's Forensic Investigation / Dr. Federic Whitehurst
Collection and Analysis of RAM / Michael Webber / BitSec Global Forensics
Corporate Investigations / Jimmy Doyle / VP, Corporate Investigations, Prudential
Big Brother Forensics / Chad Tilbury / SANS Computer Forensics & e-Discovery
Cellular Forensics: People, Rumors, and the Actual Facts / Kevin Ripa
Pre-Trial Hearings & Discovery to set the stage for Persuasive Use of Experts
Crossing the State's Expert: Reasonable Doubt with a Well-Crafted Cross
Windows ShellBag Forensics in Depth
The Battle for iCloud: Over-the-Air Forensics vs. Apple's Two-Factor Authentication
The Lessons of Science: What Lawyers and Judges need to know / Alan Gold
Going Behind the Lab Report & into the Lab: What Labs Don't Want You to Know
Forensic Audio & Video Enhancement / Doug Carner
Comprehensive & Comprehensible Discovery for a Scientific Defense / Lauri Traub
Dealing With Persistent Smartphone Forensic Challenges / Ronen Engler / Cellebrite
Preparing to Testify About Mobile Evidence in Court / Buddy Tidwell
The Ethics of Dealing with Experts / Marty Pinales & Scott Bresler
Preparing Your Jury for Science: Voir Dire and the New ABA Standards / Lisa Wayne
Export Controls: Military Products (ITAR) / Raytheon Company
OSX User, System, and Local Domain File Analysis / Sarah Edwards / SANS Institute
iOS Forensics / Domenica Crognale / SANS Institute
Registry and USB Device Analysis
Windows Artifact and Log File Analysis
Advanced Skip Tracing Tools
Audio / Video Enhancement Workshop
Filesystem Journaling Forensics
The Design and Characteristics of Location Reporting Technologies

Convergence Forensics: Leveraging Multiple Skills to Analyze Evidence
Cloud Collections
Forensic Analysis of CCTV DVRs
Lessons Learned from Incident Response / Ernst & Young
US v. Roman Seleznev USSS Case Study / United States Secret Service – Electronic Crimes Task Force
Drone Forensics 101: Extracting & Examining Data from Drones
Pushing the cloud: Issues trending with Government Malware, location privacy, social media / Hanni Fakhoury
Recent Developments & Emerging Issues in Electronic Search and Seizure / Honorable Bronson James
Challenges and Changes in the User of Digital Evidence / Cellebrite
Access Digital Evidence Faster using Emergency Download Mode / Cellebrite
25 Steps to Launch Drones in Public Safety
An Introduction to Part 107 and Preparing for the Exam
Cryptocurrency Investigations / United States Secret Service – Electronic Crimes Task Force
Recent Developments in Electronic Evidence Investigations / United States Secret Service – Electronic Crimes Task Force
PFIC Conference IoT Forensics Panel
Using Paraben's E3 with Python, Chet Hosmer, Python Forensics
Map All The Things: Geolocation for Mobile-Forensics Practitioners, Kim Thomson, H-11
IoT Data on Integrating Hubs, Amber Schroader, Paraben
Automating Packet Analysis with Python, Joe McManus, University of Colorado at Boulder
Accessing MaliciousUSB Devices, James Habben, Verizon VTRAC
Critical change to Mac & iOS devices that investigators need to know, Derrick Donnelly, BlackBag Technologies
IoT Wireless Network Forensics, Michael Raggo, 802 Secure Inc.
Damaged Device Forensics, David Rathbone, VTO Labs
The Business Challenges in Digital Forensics, Andy Cobb, One Source Discovery
Apple File System Imagin & Analysis Considerations for Forensic Examiners, Sumuri LLC
New Threats from Above: A look at How Unmanned Aerial Vehicles (UAV) are being utilized in Crimes, Cellebrite
Traces from the Cloud: Forensic Analysis of Cloud Storage, Digital Intelligence
Drone Data Extraction, Decoding, Analysis. What happens when a UAV is involved in your Investigation, Oxygen
Wi-Fi Reconnaissance and Investigations: How to be a Superhero with X-ray vision, Duff & Phelps
Mobile Acquisition Uncovered: The Past, Present, and Future of Mobile Device Investigations, Magnet Forensics
"Shh... Alexa is Listening" A security look at Voice-Based Assistants, VATG Inc.
Acquiring Data of the Internet of Things, VTO Labs
Carpenter vs. USA: Impacts to Historical Call Detail Records, Honorable Mark J. McGinnis

Digital Forensics Awareness Training Given To:

2014 Los Angeles County Association of Court Panel Investigators
2014 California Association of Licensed Investigators, Riverside County District
2015 The Law Offices of the Los Angeles County Public Defender: Compton
2015 The Law Offices of the Los Angeles County Public Defender Investigators
2017 The Law Offices of the Los Angeles County Public Defender: Norwalk
2017 The Law Offices of the Los Angeles County Public Defender: CCB
2017 The Law Offices of the Los Angeles County Public Defender: Airport
2018 The Beverly Hills Bar Association, Family Law Section, Study Group
2018 The Law Offices of the Los Angeles County Public Defender: Compton