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Curriculum Vitae

SERGEANT 2536 ROBIN SHOOK

Vancouver Police Department

GENERAL INFORMATION:

I have been a member of the Vancouver Police Department since December 2005, and have previously worked Patrol in District 4 and District 2, the Counter Exploitation Unit and as a Digital Forensic Specialist in the Digital Forensics Unit. I am currently working as a Sergeant in charge of the Vancouver City Jail.

PRE-POLICE EDUCATION:

I have a Bachelor of Arts in Criminal Justice Degree with an Extended Minor in English from the University of the Fraser Valley (2011.) I have also completed two years of study towards a Bachelor of Science in Computer Science Degree from Thompson Rivers University (2002.)

CURRENT DUTIES:

I am currently assigned to the Vancouver City Jail. My duties include responsibility for the processing of incoming prisoners as per the Bail Reform Act. I am also responsible for the Vancouver Police staff working at the Jail, as well as the health and safety of the prisoners.

From 2016 to 2022 I held a position in the Digital Forensics Unit as a Digital Forensic Specialist. My duties included the investigation of Internet and cyber related crimes and forensic examination and seizure of digital evidence from computer equipment, storage devices, cellular phones and providing other assistance in technological criminal investigations and activities. The types of investigations are wide-ranging as the Digital Forensics Unit supports all investigative sections of the Department.

POLICE TRAINING:

2010 Crisis Intervention Course – Vancouver Police Department

2007 Code 3 Training - Vancouver Police Department

2005 Recruit Training - Justice Institute of British Columbia, Police Academy

RELEVANT POLICE TRAINING FOR THIS POSITION:

2022 FOR509: Enterprise Cloud Forensics and Incident Response – SANS Institute

- This **six day** in-depth forensic **course** provides techniques and skills that allow forensic examiners to understand what data is available in the cloud. It instructs on how to rapidly triage data in a cloud environment and to leverage Microsoft Azure, AWS and Google Cloud resources to isolate and gather evidence. This course is designed to provide a basis of information to instruct examiners on how to keep up to speed with the rapidly changing world of enterprise cloud environments.

2021 Effective, covert and dynamic OSINT investigation tools and techniques, for the modern Cyber investigator – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that provides alternative methodology in conducting OSINT investigations on the internet as well as introduces new and novel techniques.

2021 FOR500: Windows Forensic Analysis – SANS Institute

- This **six day** in-depth forensic **course** provides techniques and skills that allow an examiner to conduct investigations that include Windows devices. This includes Windows operating systems and media exploitation on Windows 7, 8, 10 and Windows Server. It teaches how to identify artefact locations to answer crucial questions such as application execution, file access, data theft, external device usage, cloud services, device geolocation, file download, anti-forensics and detailed system and user activity.

2020 Understanding Mobile 2G/3G/4G/5G for Technical Investigators – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that addresses the infrastructure evolution of 2G to 3G to 4G to 5G and the impact on lawful interception. Specific topics include Network Architecture Evolution, Encryption, Target Identification and Location, Target Location Tracking, 4G to 5G Transition Specifics, 5G Spectrum and SA 5G Infrastructure Features.

2020 Contain Thyself: How to Perform Log Collection and Analysis from Container Based Technologies – SANS Institute

- A **webinar** that addresses container based technologies such as Kubernetes, Docker Swarm, and containerd. These technologies are being adopted at a rapid pace and fall into the category of disruptive technology. This webinar speaks on how to perform log collection and analysis from container based technologies.

2019 Practical Board Repair and Microsoldering – iPad Rehab Smartphone and Device Repair, Honeoye Falls, NY, USA

- A **one week course** that teaches proficiency in repairing circuit boards. This includes: BGA repairs, troubleshooting and identifying hardware and software issues, how to read and understand schematics, common and signature problems and general troubleshooting.

2019 Understanding Cryptography Used in Encrypted Third Party Services, Bitcoin/Blockchain, TOR, DarkNets and 3G/4G/5G Cellular Services for Technical Investigators – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that highlights how cryptography is used in every day digital applications and how this affects an investigation. Topics covered include: Public Key Infrastructure, Symmetric Keys, Hashing, Certificate Authorities, Crypto Tunneling, Third Party Encrypted Services, Block Chain, TOR, Cellular Encryption, Defeating Encryption, IETF and Quantum Computing.

2019 Understanding "Defeating Encryption" with Quantum Computing for Non-Engineers – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that addresses quantum computers and how they function. Specific topics include: Shor's Factoring Algorithm, quantum computing challenges, quantum computing hardware options, defeating cryptography targets for quantum computing and quantum safe cryptography options.

2019 Hacking 5G: Top Ten Zero-Day Attacks to Expect in 2020 and Beyond – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that highlights why 2G, 3G and 4G mobile network infrastructure is virtually immune to cyber hacking, denial of service attacks, ransomware and more and why these features don't apply to the new features of 5G architecture.

2019 Understanding 5G Lawful Interception Challenges Facing Law Enforcement and Vendor Solutions under Development – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that highlights the transition of worldwide cellular networks to the 5G standard. The issues spoken about in this webinar include: virtualization, the potential scale of the networks, transmission rates and density of users and the privacy components of the 5G network. This webinar presents these and other challenges facing law enforcement as well as solutions under development by leading lawful interception vendors

2019 Cryptocurrency 201: Understanding investigation toolkits, techniques & key forensic artifacts for crime involving cryptocurrency – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that provides details on the criminal use of cryptocurrencies that is evolving quite rapidly. This webinar provides an update for law enforcement agencies who need to understand the tools and techniques required to successfully investigate crimes involving cryptocurrency. This includes: the shifting targets of cyber-criminals, the use of altcoins, what are the key tools and companies needed to conduct a successful investigation and the future direction of cryptocurrencies.

2019 FOR518: Mac and iOS Forensic Analysis and Incident Response – SANS Institute

- This **six day in-depth forensic course** provides techniques and skills that allow an examiner to conduct investigations that include Apple devices. Topics include but aren't limited to: analysing and parsing the HFS+ and APFS file systems, how to understand and profile users through analysis of data files and preference configurations, how to determine if a system was used or compromised by an attacker by analysing the system and user data files in comparison to the system log files and how to understand and analyse Mac and iOS specific technologies including Time Machine, Spotlight, iCloud, Document Versions, FileVault, Continuity and FaceTime.

2019 Courtroom Testimony for Expert Witnesses – Johnathan Hak Q.C., Vancouver, BC

- This **three day course** provides students with the information and practical experience that will assist in becoming an effective participant in the court process. Topics include but are not limited to: preparation for courtroom testimony, drafting expert reports, peer review, expert witness bias, the role of the expert witness and Daubert hearings.

2018 JTAG 2.0 – Teel Tech Training, Toronto, Ontario

- A **four day course** that teaches the latest techniques for accessing mobile devices using the JTAG technique for data recovery and device unlocking. Investigators learn the required soldering skills and JTAG access options to retrieve data from an applicable device. The course also provides instruction on utilizing Molex adapter connections, eMMC reads, identifying and utilizing TAPs, authoring and utilizing python scripts to recover pattern and pin locks, and utilizing Hashcat for processing pattern and pin locks.

2018 Chip Off 2.0 – Teel Tech Training, Toronto, Ontario

- A **four day course** that teaches the latest techniques for performing forensics on the memory chips used in mobile devices and other media. Investigators learn and to remove and read memory chips using both hot and cold methodologies. This includes several advanced methods including 2 stage re-balling and re-tinning of BGA chips and non-heat polishing and PCB removal using milling stations.

2018 Placing the Suspect behind the Keyboard – Digital Forensics and Incident Response Training Centre

- An **online course** that provides information and training regarding the use of digital forensic artifacts along with traditional investigational methods to place a suspect behind the keyboard in a criminal offence.

2018 Learn Python – Automating OSINT

- An **online course** that provides the knowledge base required to learn and utilize the programming language Python, specifically tailored to open source intelligence. Topics covered include setting up Python and WingIDE, learning various python functions, dictionaries, JSON and working with the Twitter API.

2018 FOR585: Advanced Smartphone Mobile Device Forensics – SANS Institute

- A **six day in-depth smartphone forensic course** provides students with the advanced skills to detect, decode, decrypt and correctly interpret evidence recovered from mobile devices. This course includes 27 hands on labs, a forensic challenge and a working case that allows students to analyse many diverse datasets from smart devices and learn to leverage the best forensic tools available.

2018 Vehicle Systems Forensics – Berla Co., Vancouver, BC

- A **five day course** that is a complete indoctrination into vehicle forensics investigations. It covers the entire process of identifying, acquiring and analysing data from vehicle navigational systems utilizing the iVe Ecosystem.

2018 Internet Evidence Analysis – Canadian Police College, Ottawa, Ontario

- A **ten day course** that provides the knowledge and necessary skills to conduct forensic examination on computer systems for internet artefact evidence created by various software programs on a Microsoft Windows operating system. Artefact evidence created by these various programs range from settings, to log files and other files created as a result of application use. The most widely used applications are explored including web browsers, email, instant messaging, peer to peer, social networking, webmail and cloud platforms.

2017 AccessData Macintosh Forensics – Syntricate Training, Lindon, UT, USA

- A **three day** hands-on, intensive **course** that teaches the knowledge and skills necessary to recover and analyse forensic artefacts from the Macintosh operating system. Specific topics include Macintosh GPT structure, obtaining date and time from Mac, carving Property Lists, recovering artefacts from Safari, Firefox, iChat, Apple Mail, iPods and iOS backups.

2017 Defeating Encryption with Quantum Computers and Defeating Quantum Computers with Quantum-Safe Cryptography – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that highlights the current progress in the world of Quantum Computers. Specific topics include Quantum Mechanic Principles, Qubits, Defeating Encryption Algorithms, Quantum Computer Hardware, D-Wave, Quantum Mechanics and QKD, Technology Readiness and Other Quantum Safe Cryptography Considerations.

2017 Next Generation Information Security with Quantum Key Distribution Deployment – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that addresses what parts of today's cryptography is vulnerable to quantum computer defeat and what counter alternatives are available. There are two defensive architectures: first, Quantum Key Distribution (QKD) and second, Quantum Resistant Algorithms (QRAs). QKD based on Quantum Physics was addressed looking at what cryptosystem components are vulnerable to quantum computers, followed by quantum computer operational basics and quantum entanglement cryptography breaking algorithms with important performance metrics. Quantum Resistant Algorithms were addressed by highlighting differences between today's PKI and QRAs that makes them quantum safe with a high level overview of leading QRAs options such as Hash Signature; Lattice Key; Code-Based; and NIST/ETSI standard activities.

2017 AccessData Linux Forensics – Syntricate Training, Lindon, UT, USA

- A **one day** hands-on, intensive **course** that teaches the knowledge and skills necessary to recover and analyse forensic artefacts from various builds of the Linux operating system. Specific topics include common Linux distributions, general Linux file structure, commands and applications, Linux OS artifacts, User Profile information, System related data, files and folders accessible to the user and user-related artifacts for default applications.

2017 AccessData Windows 10 Forensics – Syntricate Training, Lindon, UT, USA

- A **three day** hands-on, intensive **course** that teaches the knowledge and skills necessary to recover and analyse forensic artefacts from computer systems running Microsoft Windows 10. Specific topics include the new Microsoft Edge browser, Cortana assistant and Onedrive. The course also reviewed core registry files and new values of forensic interest.

2017 AccessData Computer Forensics and the Cloud – Syntricate Training, Lindon, UT, USA

- A **two day** hands-on, intensive **course** that teaches the knowledge and skills necessary to analyse the Microsoft Windows operating system to locate user data and file system artifacts related to the usage of cloud services. Specific cloud services covered include Dropbox, iCloud, Onedrive and Google Drive.

2017 Advanced XRY Workshop – MSAB, Vancouver, BC

- A **one day** **course** that taught forensic techniques to recover forensic evidence from mobile devices using MSAB's XRY software suite. Specific topics covered included conducting forensic imaging on different types of devices, multi-platform processing of mobile device imaging and key forensic artifacts.

2017 Android Emulators Forensics – Magnet Forensics, Vancouver, BC

- A **webinar** that provided training into the use of Android Emulators in the field of Forensics. Specific topics include how to use Emulators as part of forensic examinations, differences and similarities between Emulators and devices and how to use emulators to test apps and devices to deepen understanding of forensic artifacts on Android devices.

2017 Blacklight Tool Training – Black Bag Training, Vancouver, BC

- A **two day** **course** that offers hands-on training in investigative techniques for authenticating, analysing and reporting digital evidence found on computers and smart phone devices. This course covers the use of Backlight, a comprehensive forensic analysis tool that is designed to help investigators conduct digital forensic examinations on Windows, Android, iPhone and Mac OS X.

2017 AccessData iOS Forensic Analysis – Syntricate Training, Lindon, UT, USA

- A **three day** **course** that teaches the interface and methods to extract the maximum data from iPhones using forensic processes. Also discussed are the methods of jailbreaking and obtaining a bit by bit image of the iPhone memory as well as unlock codes.

2017 AccessData Android Forensic Analysis – Syntricate Training, Lindon, UT, USA

- A **three day** **course** that covers the internals of Android devices, the way the OS is designed, and the way that devices store data. This course covers methods of data extraction, to find and process evidentiary data and to validate the data in a method that is presentable for court purposes.

2017 Advanced Flasher Box and Bootloader for Mobile Forensics – Teel Tech Training, Seattle, WA, USA

- A **five day course** that provides an in-depth understanding of the most useful and effective flasher boxes and bootloader utilities to unlock and acquire mobile device memory. In the Flasher box portion of the class, an overview was provided of flasher box tools for lower-cost devices, and instructions provided to how to install the tools and image devices. In the bootloader portion of the class instructions were provided on accessing device partitions to unlock or bypass internal locks. Lessons also included using ADB commands, identifying whether a phone has an FRP lock and how to bypass it and using CWM and TWRP to unlock a device to access memory and to image the device.

2017 AccessData Networking for Incident Response 1 – Synticate Training, Lindon, UT, USA

- A **three day course** that explains how to plan, construct, maintain and investigate computer networks.

2017 Case Studies 1: Placing the Suspect Behind the Keyboard – Digital Forensics and Incident Response Training Centre

- A **course** that provided information and training regarding the use of digital forensic artifacts along with traditional investigational methods to place a suspect behind the keyboard in a criminal offence.

2017 Mobile Device Acquisition and Analysis – Canadian Police College, Ottawa, Ontario

- An **eight day course** specifically designed for police investigators trained in digital forensics to increase their knowledge and effectiveness in the collection, analysis and disclosure of information obtained from mobile devices. This is a best practice review of how to lawfully seize and preserve evidence from mobile devices. The primary objectives of this course are designed to familiarize students with different technologies and to provide them with hands on practice on how to effectively obtain evidence from mobile devices using the most forensically sound processes available.

2017 MSAB XRY Certification Training – MSAB, Vancouver, Canada

- A **two day course** that acts as an introduction to mobile device forensics. This course focuses on the core principles of data recovery and preservation for mobile device examinations, along with numerous techniques in utilizing XRY for data extraction.

2017 MSAB XRY Intermediate Training – MSAB, Vancouver, Canada

- A **three day course** that builds on the knowledge gained from XRY Certification, showing techniques on how to carry out more complex data recovery techniques on a wide range of mobile devices. It also introduces deeper and more comprehensive data analysis following extraction.

2016 Understanding and Defeating TOR for Law Enforcement and Government Intel –
Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that provides education on how TOR technologies are used to circumvent interception and decoding of content by Law Enforcement and Intelligence Communities, and what can be done to normalize and identify the communication. This training included a detailed overview of the internal TOR-specific network function and approaches to defeating TOR including network infection options, compromising Key distribution and Social Engineering.

2016 X-Ways Forensics: Integrated Computer Forensics Software – X-Ways Software Technology AG, Ottawa, Ontario

- A **one week** long **course** that focuses on the systematic and efficient examination of computer media using the X-Ways Forensic software. This course provides a methodology to get the most thorough overview conceivable of existing and deleted files on computer media. It also includes forensically sound disk imaging and cloning, data recovery, search functions, dynamic filtering, report creation, slack space, hash databases and computer registries.

2016 CompTIA A+ Certification – CompTIA, Vancouver, BC

- A certification that covers the following areas of foundational computer knowledge: PC hardware and peripherals, mobile device hardware, networking, troubleshooting hardware and network connectivity, installing and configuring operating systems including Windows, iOS, Android, Apple OSX and **Linux**, and computing security, the fundamentals of cloud computing and operational procedures.

2016 An Update on IETF/Privacy Group's Initiatives to Defeat Lawful Interception – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that provides education on the current worldwide situation in relation to device and communication encryption with emerging trends and products. Specific topics included IETF/TCP Crypt, MAC address hopping and free certification authorities.

2016 Vehicle Telematics and Data Sets – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that provides education in regards to the data stored within different infotainment and telematics systems contained within modern vehicles and the methods to acquire and analyse it.

2016 AccessData Forensic Fundamentals – Syntricate Training, Lindon, UT, USA

- A **three day** hands-on, intensive **course** that provides an understanding of computer crime and discusses current challenges faced by forensic examiners. Specific topics included outlining search and seizure issues and the ideal handling of electronic evidence as well as drive imaging, partitioning, formatting and drive geometry.

2016 AccessData Internet Forensics – Syntricate Training, Lindon, UT, USA

- A **three day** hands-on, intensive **course** that teaches how to conduct an effective Internet-application-based investigation. Specific topics include where and how to recover evidence from Internet browsers, Instant Messenger clients and social network sites using AccessData tools and techniques.

2016 Computer Forensic Examiner – Canadian Police College, Ottawa, Ontario

- A **fifteen day course** designed for investigators who must search, seize and analyse potential digital evidence found on personal computer hardware. Through a combination of theory, demonstration and hands-on experience, a thorough understanding of the underlying principles and advanced techniques used in computer forensics is taught.

2016 AccessData Password Recovery – Synticate Training, Lindon, UT, USA

- A **one day** hands-on, intensive **course** that teaches how to use software tools to recover passwords and decrypt encrypted documents. Specific topics include different methodologies of encryption and decryption, recovering and breaking a multitude of password and encryption protocols and techniques in applied methodology for dictionary based decryption.

2016 Dark Web Investigations: From Financial Fraud to Supply Chain Risk – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that demonstrates how to use dark web and peer-to-peer content in understanding risks associated with product protection, financial fraud reduction, and conspiracies that undermine brands. Specific topics included financial fraud using Malware, identifying perpetrators of carding schemes, fake pharmaceuticals in bulk on the Dark Web, leaked Intellectual Property and Email based Ransomware investigations.

2016 Cellebrite Certified Logical Operator – Cellebrite Mobile Synchronization Ltd, Vancouver, BC

- A **two day course** that teaches the fundamentals of mobile device investigations, logical extraction of user data and analysis of mobile devices. The course taught usage of the Cellebrite UFED product line to perform a number of extractions from mobile devices with a variety of operating systems, as well as creating safety SIMs and extracting evidence from SIM cards. It also taught usage of the UFED Reader software to author reports and use different forms of data to multiply investigative efforts.

2016 Cellebrite Certified Physical Analyst – Cellebrite Mobile Synchronization Ltd, Vancouver, BC

- A **three day course** designed for the intermediate and advanced forensic examiner. This course focusses on the use of Cellebrite UFED products to perform file system extractions, physical extractions, password bypasses and the advanced analysis of evidentiary items.

2016 Darknet Investigations for Law Enforcement – Intelligent Support Systems World Training, McLean, VA, USA

- A **webinar** that discusses the need for investigating crimes on the Darknet, how to access the various parts of the Darknet and understanding the risks associated with these investigations. Specific topics include information regarding the Darknet, Cryptocurrency, going undercover on the Darknet, using web bugs and other technology to locate a suspect and advanced Darknet investigations to identify an anonymous user.

2016 AccessData Windows Registry Forensics – Synticate Training, Lindon, UT, USA

- A **three day** hands-on, intensive **course** that teaches how to use software tools to obtain copies of the Windows Registry and how to retrieve evidence from these copies. Specific topics include how to carve registry key names from unallocated space, how to identify and locate trace evidence from regf and hbin blocks and how to retrieve user and computer data from the SAM, SYSTEM, NTUser.dat, UsrClass.dat and SOFTWARE hives.

2015 Advanced Social Media Investigations – The Society for the Policing of Cyberspace, Vancouver, British Columbia

- **Two day course** that teaches advanced techniques in Social Media Intelligence Investigations. This course provided an in-depth perspective on Open Source Intelligence gathering, remote monitoring, advanced decryption techniques, identifying and protecting against Malware and web application architecture.

2015 Forensic Interviewing – Canadian Police College, Vancouver, British Columbia

- **Eight day course** that teaches crime investigators the theory, knowledge, methodology and practical application of conducting interviews, obtaining pure version statements, analysing statements, assessing cognitive veracity, conducting structured interviews and using a structured approach during interrogation of criminal suspects.

2015 Advanced Open Source Intelligence and Social Media Investigative Techniques – The Society for the Policing of Cyberspace, Vancouver, British Columbia

- **Two day course** that teaches advanced techniques in Open Source Intelligence and Social Media Investigative techniques. This course provides a framework of knowledge to leverage social media platforms, including Facebook to provide a deep level of open source intelligence gathering, remote monitoring, meta-data extraction, advanced analytical techniques in social media intelligence, advanced decryption techniques, obtaining evidence from time sensitive applications and platforms, and the use of apps in a Virtual Environment to capture information on mobile devices.

2013 Advanced Canadian Internet Child Exploitation – Canadian Police College, Ottawa, Ontario

- **Ten day course** designed for experienced child exploitation investigators conducting proactive online investigations. This course taught advanced techniques and skills required to communicate effectively in an online undercover capacity, as well as the benefits and risks to these investigative techniques. Through a combination of theory, demonstrations and practical exercises, police officers developed a thorough understanding of online communication skills, hardware, software, and evidence capturing techniques required to successfully investigate online child exploitation offenses.

2012 Child Abuse Investigations – Justice Institute of British Columbia

- This **five day course** focused on offences against children. It provided the necessary tools to conduct enhanced investigations into child abuse complaints, focusing on best practices and victim and witness sensitivity.

2012 Digital Technologies for Investigators – Canadian Police College, Edmonton, Alberta

- **Ten day course** on the tools and resources required to investigate computer and Internet related offences, as well as how to secure digital data as it pertains to computer related investigations. The course trains investigators how to recognize and identify computer hardware, Internet Protocol addresses, obtain subscriber information, trace emails, investigate files involving social networking, peer to peer and instant messaging websites, secure evidence found on the internet, seize cell phones, computers and other digital evidence to protect the integrity of the digital data.

2012 Canadian Internet Child Exploitation – Canadian Police College, Ottawa, Ontario

- **Ten day course** on investigations and prosecutions of online offences related to the sexual exploitation of children. This course trains investigators to identify the offence, form opinion on whether they believe the images viewed are child pornography, write a child exploitation and related search warrants, use both online tools and more traditional techniques to gather evidence, testify in court on these types of investigations, and interviewing of pedophiles.

2011 Internet Investigations for Law Enforcement – Justice Institute of British Columbia

- A **one week course** focusing on the basic structure and capability of the World Wide Web, Understanding the capabilities of the Internet as a police research tool, and to more effectively search Internet base resources, organizing and archiving information recovered from Internet sources.

2011 Facebook for Investigators – Justice Institute of British Columbia

- A **one day long course** on using Facebook and other social media as an investigative tool.

2011 Undercover Peer to Peer File Sharing Investigation Course – National Child Exploitation Coordination Centre

- This **five day course** focused strictly on the use of P2P (peer 2 peer) file sharing programs by persons trading images and videos of child pornography online. The training provided investigators with the tools to identify, gather evidence and prepare warrants for persons in their jurisdiction who are using peer based programs on the Gnutella Network such as Limewire, Frostwire, Bearshare and eDonkey to trade child pornography. This includes the use of specialized software and record analysis to identify a targeted suspect from a pool of many thousands of active P2P users.

2009 Surveillance Techniques and Resources Course – Vancouver Police Department**2007 Investigators Course – Level 1** – Vancouver Police Department**2007 Investigators Course – Level 2** – Vancouver Police Department

CONFERENCES, WORKSHOPS AND PRESENTATIONS ATTENDED:**2022 Leveraging Emerging Technology: Our Virtual Reality – Canadian Association of Chiefs of Police – Vancouver, BC**

- A **two day conference** that looked to explore and share the realities of emerging technology, and how it can enhance, support and showcase service delivery. It provided insights and practical examples of current and emergency innovative technology that can assist in providing excellence in policing and public safety.

2017 10th National Symposium on Technology Crime and Electronic Evidence – Osgoode Professional Development, Osgoode Hall Law School

- A **one day seminar** that addressed topics including: critical issues in cyber security and the increasing complexity of digital investigations, the top issues of 2016 with investigations and drafting legal orders in regards to electronic evidence, effectively and ethically using social media and evidence admissibility issues, search and seizure latest cases and hot button issues, and tackling white collar crime with special issues and unique challenges in the electronic age.

2016 Mutual Legal Assistance Treaty Training - Department of Justice – Vancouver, BC

- A **presentation** by members of the Department of Justice on the Mutual Legal Assistance Treaty process, best practices and relevant procedural efficiencies.

2016 FBI Presentation on the Boston Marathon Bombing Investigation – Surrey, BC

- A **presentation** by Special Agent Timothy Brown of the Boston Federal Bureau of Investigation that provided an overview of the events and investigation of the terrorist attack that resulted in the death of 3 people and the injuring of more than 260. This presentation also covered large incident evidence recovery, the exploitation of digital media as evidence, interviews and what lessons that were learned to apply to similar investigations going forward.

2015 Northwest Regional ICAC Conference – Redmond, Washington State, USA

- A **three day** multi-state, multi-disciplinary **conference** that seeks to expand the efforts and knowledge of law enforcement investigators. The conference provided highly specialized training focused on investigating and prosecuting technology-facilitated crimes against children.

2014 Ontario Provincial Strategy Conference – Niagara Falls, Ontario

- A **four day conference** and training workshop for all ICE investigators in Canada. I attended five, four hour workshops on new technologies and matters relating to the investigation of Child Pornography offences.

2014 Missing and Exploited Children Conference – Winnipeg, Manitoba

- A **three day conference** on missing and exploited children in Canada. This conference provides three days of training by subject matter experts on a wide range of issues, including the detection and investigation of child victimization and internet-related exploitation.

2013 Search and Seizure Law in Canada – Osgoode Professional Development, Osgoode Hall Law School, Banff, Alberta

- A **two day conference** and workshop regarding the current law and trends surrounding Search and Seizure Law in Canada.

- 2013 Open Source Intelligence Techniques** – Justice Institute of British Columbia
- A **two day** long **course** on how to use open source techniques and tools to mine the Internet for open source data that can assist in any investigation.
- 2013 Facebook Legal Presentation** – Facebook Canada
- A **one day presentation** by executives from Facebook. This presentation included current capabilities of Facebook in assisting in criminal investigations, how Facebook functions as a social media portal and correct methodology of conducting Facebook investigations as presented by Facebook.
- 2013 Ontario Provincial Strategy Conference** – Niagara Falls, Ontario
- A **four day conference** and training workshop for all ICE investigators in Canada. I attended five, four hour workshops on new technologies and matters relating to the investigation of Child Pornography offences.
- 2013 Deep Web, Dark Net and Social Networking Investigation** – Pacific Region Training Centre
- A **one day training course** that covered the Deep Web and Dark Net (TOR) and how to conduct investigations within the network. This course also included Social Networking Investigations, primarily using Facebook as a medium, and how to use aggregate data obtained from Facebook in order to draw a nexus between criminal networks.
- 2012 Asian Organized Crime Presentation** – Justice Institute of British Columbia
- A **one day** long presentation on Asian Organized Crime in the Lower Mainland.
- 2012 Middle Eastern Organized Crime Presentation** – Justice Institute of British Columbia
- A **one day** long presentation on Middle Eastern Organized Crime in the Lower Mainland.
- 2012 Fourth Annual Illicit Networks Workshop** – Simon Fraser University, Vancouver, BC
- A **two day workshop** that seeks to maximize meaningful and on-going cooperation among researchers working on various forms of crime and security issues from a network perspective.
- 2012 BC Law Enforcement Diversity Network** – Justice Institute of British Columbia
- A **one day** long **forum** that addressed the challenges involved in investigating human trafficking, honour killing and the cultural silences that often surround both.
- 2012 Ontario Provincial Strategy Conference** – Niagara Falls, Ontario
- A **four day conference** and training workshop for all ICE investigators in Canada. I attended five, four hour workshops on new technologies and matters relating to the investigation of Child Pornography offences.

SPEAKING ENGAGEMENTS:

- 2022 BC Prosecution Service** – Vancouver, BC
- Presented during a training day to a group of Crown Counsels on Digital Forensics and the role of the VPD DFU in investigations and the Court process.

- 2022 Public Prosecution Service of Canada – Vancouver, BC**
- Presented during a training day to a group of Crown Counsels on Digital Forensics and the role of the VPD DFU in investigations and the Court process.
- 2016 Vancouver School Board – Vancouver, BC**
- Presented to a group of administrators, teachers and parents group on current trends in Internet based offending, safety concerns and strategies in promoting Internet safety to children.
- 2016 Burnaby School Board – Burnaby, BC**
- Presented to a group of students on Internet safety and what precautions to take to prevent victimization when using Social Media and other websites and applications on the Internet.
- 2016 Douglas College – New Westminster, BC**
- Presented to an Introduction to Cybercrime course on several topics spanning the gamut of Cybercrime from an investigative standpoint which included relevant legislation and case law, offender modelling and pattern of offending and highlights of investigative cases that had a reliance on technology and cybercrime.
- 2015 Citizen's Police Academy – Vancouver Police Department**
- Provided multiple training sessions on Internet Child Exploitation and Online Child Luring.
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- Provided multiple training sessions on Internet Child Exploitation and Online Child Luring.

EXPERT QUALIFICATIONS:

- 2022 R. v. Do – British Columbia Provincial Court**
- A Voyeurism Trial presided over by Honourable Judge Mr. St. Pierre
 - Qualified as an expert in Digital Forensics including:
 - The forensic analysis of digital devices including the identification, preservation, extraction and interpretation of digital evidence.
- 2022 R. v. Seangio – Ontario Court of Justice**
- A Voyeurism Trial presided over by Honourable Mr. Justice Norm Boxall
 - Qualified as an expert Digital Forensic Specialist in the following areas:
 - Forensic acquisition, examination and seizure of digital evidence from computer equipment, storage devices, and cellular phones;
 - Accessibility and location of files and folders on such devices, and
 - Data retention and deletion, data recovery, and storage of data.

2022 R. v. Coban – British Columbia Supreme Court

- An Extortion Trial presided over by Honourable Madame Justice Devlin
- Qualified as an expert in Digital Investigation, including:
 - The basic display, function, and use of computers and the internet, including desktops, web browsers, taskbars, start menus, file creation and storage, and printing;
 - The basic display, function, and user experience of social media and communication applications and websites including Facebook, YouTube, email (including Gmail), Windows Live Messenger, Skype, Tinychat.com, Omegle.com, BlogTV.com, Dialogoo.com, Icanhazchat.com, and Camvoice.com;
 - The basic display, function, and user experience of file hosting websites including Motherless.com, Imageavenue.com, Zshare.com, Imageshack.com, and Postimage.org; and
 - The interpretation of terminology, slang, and emojis used on the internet.

2022 R. v. Amero, Wiwchar and Alkhalil – British Columbia Supreme Court

- A Murder Trial presided over by Honourable Madame Justice Maisonville
- Qualified as an expert in the best practices for digital acquisition, retention and analysis.

2017 R. v. Hamdan – British Columbia Supreme Court – 2017 BCSC 676

- A Terrorism Trial presided over by Honourable Mr. Justice Butler
- Qualified as an expert in the operation and function of Facebook as a social media portal and the interpretation of Facebook account records.

2017 R. v. Paul – British Columbia Supreme Court – 2017 BCSC

- A Murder Trial presided over by Honourable Mr. Justice Grauer
- Qualified as an expert in the operation and function of Facebook as a social media portal and the interpretation of Facebook account records.

2016 R. v. Olson – British Columbia Provincial Court – 2016 BCPC

- A Sexual Exploitation Trial presided over by Honourable Judge Carmen Rogers
- Qualified as an expert in the operation and function of Facebook as a social media portal and the interpretation of Facebook account records.

2016 R. v. Paul – British Columbia Provincial Court – 2016 BCPC

- A Murder Preliminary Hearing presided over by Honourable Judge Gregory Rideout.
- Qualified as an expert in the operation and function of Facebook as a social media portal and the interpretation of Facebook account records.

2015 R. v. Hexamer – British Columbia Supreme Court – 2016 BCSC 185

- A Dangerous Offender Hearing presided over by Honourable Mr. Justice Williams
- Qualified as an expert in the area of computer analysis involving child pornography and other images including classification of child pornography images and videos, their categorization, organization and storage

2013 R. v. Moazami – British Columbia Supreme Court - 2013 BCSC 2398

- A Prostitution and Human Trafficking Trial presided over by Honourable Madam Justice Bruce.
- Qualified as an expert in the operation and function of Facebook as a social media portal and the interpretation of Facebook account records.

AWARDS AND CITATIONS:

2014 Chief's Constable Unit Citation

- Presented with a Chief's Constable Unit Citation as a member of the Counter Exploitation Unit for a three year investigation into an extensive human trafficking operation run in multiple jurisdictions.

2010 Chief's Constable Unit Citation

- Presented with a Chief's Constable Unit Citation as a member of the Public Order Group for service during the 2010 Olympic Winter Games.