JUSTIN KNOX, CISSP

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SUMMARY:
• Networking, Systems & Cyber Security Engineer with 20 years of experience in the tech industry.
• 10+ years of professional experience in automation, support and development.
• Demonstrated leadership, problem-solving and adaptability with expertise in mentoring, training and project delivery.

EXPERIENCE:

IT/OT Infrastructure Administrator, Cyber Security   Sep 2023 - Present
Great Lakes Water Authority, Operational Technology, Cyber & Information Systems Security
Direct-Hire | Onsite to 20% Remote | Detroit, MI
Developed, implemented and maintained information, operations and network systems of the Great Lakes Water Authorities process control network.
• Piloted a credential management system, increasing department-wide password complexity by 8%.
• Implemented TLS 1.3 authentication for an increase of authenticated sessions by over 12%.
• Designed, developed and deployed an Internet Protocol Address Management (IPAM) platform on PostgreSQL, Redis and Jenkins web-based technologies.
• Built and tuned an internal SIEM; to provide increased visibility into network related events.
• Developed and implemented internal malware analysis processes, categorization and archival systems.
• Designed and constructed an internal Change Management system for production related changes.
• Conducted the 2023q4 and 2024q1 internal security audits in preparation for the Quantitative Risk Assessment utilizing the AWWA, NIST 800-153 & CSF 2.0 frameworks.
Skills: PowerShell · ReST API · AD Administration · x509 · tcpdump · nc · nmap · Nessus NASL · SCADA

Systems Engineer   June 2023 – Sep 2023
Corewell Health, Critical Environment Engineering (CEE)
Contract-to-Hire | Ma-Tech Resources | Onsite to %20 Remote | Grand Rapids, MI
Collaborated with the cross-functional agile train to deploy, provision, and maintain the companies existing and future infrastructure across OSI L1-4.
• Built the production compute infrastructure within a 40% faster than estimated delivery time through providing experienced deployment methods using industry best practices.
Skills: Industrial PME · DCIM

Network Engineer   March 2023 – June 2023
jPeg Design | Research & Development, Deployment, Support & Maintenance
Direct-Hire |100% Onsite | Dundee, MI
• Worked in a 3-person team to design, deploy and maintain small to medium business infrastructure.
• Developed the company's first inventory, customer, client and installation databases.
• Developed in-house automation software, including password management and deployment monitoring software.
Skills: PostgreSQL · Python · Git · Azure · AWS · MoIP · Cisco CLI

Freelance Technical Consultant   December 2021 – March 2023
Alchemy Computing, Dumptd | Research & Development, Systems Architecture
Direct-Hire | 100% Remote | Washington DC

Coordinated with Start-Up engineering teams for the prototyping of front and back-end systems in the creation, securing and deployment of company and production infrastructure.
Skills: Laravel · PHP · TomTom API · Google Maps API · Ansible · Python · MoIP· VoIP· Cisco CLI· Juniper · PostgreSQL · RFID · QR-Code Programming

Operations Engineer II / Data Center Technician III   December 2018 – December 2021
Google | Engineering Field Services; Server, Network & Hardware Operations
Direct-Hire | 100% On-site | Charleston, SC; Reston, VA
Worked in the 12 member global EFS team covering all deployment architectures for the full-breadth of Google's production fleet.
- Provided zero loss to five-9 SLO and SLA during the ~400% increase to production load during the Covid-19 outbreak with an 80% reduction in staff.
- Led the project team which deployed 1/3 of the GCVE infrastructure in which we were able to complete the project 75% ahead of schedule.
- Built and deployed BASH, Python C code, Kubernetes-based software systems which monitored, configured and effectively automated 80% of my original job functions, including automated ticket diagnosis, repair tasking, and ticket closure. Measured an 800% decrease in repairs for the regions in which this software ran.
- Received 19 Peer Bonuses and 2 Challenge Coin Awards; Commendable Service during Hurricane Dorian, and same during Pandemic Support.
Skills: Bash · Bigtable · Protocol Buffers / ProtoBuff · Python · Planet-Scale CI/CD · Borg (aka Kubernetes)

Network Operations Technician   July 2017 – December 2018
Switch LTD | Network Operations
Contract-to-Hire | TekSystems | 100% On-site | Las Vegas, NV
Coordinated with engineering teams to provide infrastructure support.
· Implemented custom programmed outlook filters combined with email lexical analysis to autogenerate tickets based on customer emails saving approximately 65% of time spent answering emails.
Skills: AutoHotkey · BGP · PowerShell · Splunk

Systems Administrator IV   October 2016 – June 2017
Pinnacle Community Services | Information Technology
Direct-Hire | 100% On-site | Las Vegas, NV
Worked in a marketing automation platform organization, assisting businesses of various sizes. Collaborated with a 1,200-person team to improve security and comply with SOC 2 and PCI-DSS. Led projects to strengthen security processes and promote best practices.
- Developed internal file-share-system and converted to bring organization into HIPAA compliance.
- Secured the companies trunks using IPsec over GRE on Cisco and Avaya infrastructure.
- Saved the company approximately $80k from unneeded legal hours through conducting an in-house investigation using the Sleuth digital forensics toolkit to procure documents required for discovery.
Skills: Cisco· Avaya· Windows Server 2012· Active Directory· Samba· Kerberos· Porteus Linux· Java· PowerShell · BSD

Technical Specialist II   November 2013 – April 2015
Scientific Games | Technical Documentation and Training
Direct-Hire | 100% On-site | Las Vegas, NV
- Brought travel expenditures down by 95% through creating a digital library of in-house training videos through the Casino Laboratory that our team also created.
- Saved approx. 650 hours / week in labor through consolidating the Geographic Dependent Jurisdiction codes technicians were sourcing in to a single database.

Skills: Microsoft SharePoint· Arch Linux· PHPFM· Memcached· NGINX · Apache· WordPress · Jekyll· Markdown · Yammer

Freelance Technical Consultant   September 2009 – November 2013
Alchemy Computing | Information Technology | Las Vegas, NV
- Focused specialties included small to medium business PC Repair, website development, electronics prototyping.

Skills: A+ · Malware Removal · Digital Forensics · Data Recovery

Network Event Management Technician III   May 2008 – September 2009
Infonet - British Telecom | Converged Services Management Center
Contract-to-Hire | TekSystems | 100% On-site | El Segundo CA
Assisted with the internal acquisition of Infonet's global NOC to the UK's infrastructure.
- Provided complete coverage over the management platform for OSI L1-3 over a Cisco, Juniper, Alcatel-Lucent, Ciena mixed platform.

Skills: MPLS, EIGRP, IGRP, SDH, PDH, ATM Frame-Relay, TCP/IP V4/V6, SIP, ARP, CDP, CARP, EIGRP, OSPF, BGP, VTP, EtherChannel, 802.1Q trunking, QoS, Multicast, 802.11a/b/g/n/ac, IPsec, LDAP, RADIUS/TACACS+, SNMP, NTP, VRF and HTTP/HTTPS

Junior Electronics Engineer   June 2006 – November 2007
Synetcom Digital | Research and Development
Direct-Hire | 100% On-site | El Segundo, CA
Worked in the engineering team developing industrial SCADA radios for (in-house developed) industrial video, monitoring digital IO, 4-20ma sensor loops, and PWM.
- Built the GUI for the PLC system's first user control panel.
- Secured the internal LAN using IPSEC between machines in a mesh LAN topology.

Skills: PLCs · PIC Programming · BASIC Stamp Development · Propeller Chip· FHSS · Antenna Design and Implementation · EagleCAD · EWB · Oscilloscope · Function Generator · Traffic Generators · Spectrum Analyzer · Embedded Linux · Windows CE · C++ · Ladder Logic

Tutor, Electronics and Development Lab Assistant   March 2004 - June 2006
DeVry University | Network Laboratory
Direct-Hire | 100% On-site | Long Beach, CA
Tutored students in the network security and advanced micro peripheral courses. Focused specialties included:
- Network Design, Engineering & Architecture
- Cisco CLI commands, interfacing and scripting.
- Implementing network configurations with Java
- Network Packet analysis

Skills: C++ · Java · Wireshark · Cisco · Novell · Windows 2000 Networking · RedHat Linux · Gentoo · TCP/IP Packet Optimization

EDUCATION:

(IN PROGRESS) M.S.C.S. Data Science and Intelligent Systems   (PROJECTED) December 2025
University of Tennessee, Knoxville   (ONLINE) Knoxville, TN

B.Sc. Computer Engineering Technology, Cum Laude, GPA: 3.6   March 2008
DeVry University, Long Beach   Long Beach, CA
- Best Senior Project, 2008, "Fingertip Effects". Machine vision Java, C++ & Assembly application which tracked LEDs worn on a user's hands to generate DSP audio and music effects. Developed a custom protocol over RS-232 (required) to interface with the Analog Devices Blackfin DSP.
- Associated Student Body President, Spring 2005 – Fall 2005, Spring 2006-Fall 2007

CERTIFICATIONS/PUBLICATIONS/PROFESSIONAL ASSOCIATIONS:

CISSP / Certified Information Systems Security Professional
    International Information System Security Certification Consortium, ISC2, Member ID: 954626
    Active as of: March 2024

SEC+ / Security+
    Computing Technology Industry Association, CompTIA, Candidate ID: COMP001022411475
    Active as of: December 2023

ISACA Member
    Information Systems Audit and Control Association, ISACA, Member ID: 2063351
    Active as of: August 2024

Amateur Radio Technician Class License
    Federal Communications Commission, FCC, Callsign: KF8BVZ
    Active as of: July 2024

SKILLS:

- Languages: C, C++, Java, Shellcode, LaTeX, PowerShell, CSS, JavaScript, Ruby, Python, Assembly
- Type I Hypervisors: Hyper-V, KVM, ESXi, BSD
- Type II Hypervisors: Docker, VirtualBox, VMWare
- Cloud Environments: Azure, Google Cloud Platform, Amazon / AWS

PROJECTS:

"Homelab"
VM Environment on ProxMox, w/ TrueNAS. ~40 vms for applications testing and development. Windows AD 2019, w/ Self-hosted PiHole DNS, OPNSense (dual) firewalls, w/ Monero full-nodes. No mining (yet). Machines: Cisco 1841, Palo-Alto PA-500, MacMini, Windows 10 Pro (AD & PowerShell).

"Cyboard" - Longboard Security System and Datalogger
Raspberry Pi "Smart skateboard", with on-device weather detection, key fob, motion and GPS. Technologies: Python, SQLLite, GPS PA1616S, Raspbian, NeoPixel LED, Remote Control Encoder PT2262, SHT30 Sensor, ADXL343 - Triple-Axis Accelerometer

VOLUNTEER/LANGUAGES/AWARDS:
Languages: Studying Spanish, German (Pre-A1) and Portuguese
Awards: Best Senior Project 2008.