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Objective: Systems Administrator

Experience:



University of Tennessee, Knoxville | Graduate Student

Studying for Masters of Science in Computer Science | Online, Ann Arbor, MI | Dec 2022 – Present

- Specialization is in Data Science & Intelligent Systems; with Dual-Major in Software Engineering.



jPegDesign | Technical Specialist II

Camera, IT & Network Systems Design, Deployment & Support | Ann Arbor, MI | March 2023 – Present

- Provide managed IT services covering all aspects of SMB IT including Active Directory GPOs, Windows AD servers, Access Control, POS, VOIP, Network & Cloud Infrastructure.
- Technologies include VOIP, Biometric & RFID Access Control Systems (with door strikes), CAT6 & Fiber networking, Wireless Access points, backhaul repeaters, Wireless (CDMA, LTE & MIMO) antennas, IP Cameras & NVR systems.
- Provide installation, support & configuration for any type of SMB infrastructure & appliances; including, servers, network infrastructure, structured cabling, access controls, cameras, monitoring and alarm systems.
- Main clients are primarily in the hospitality & retail industries.



Alchemy Computing | Freelance Technical Consultant

Fullstack Development, Systems Architecture & Design | Ann Arbor, MI | Dec 2021 – Present

- Services include, small business infrastructure design, development & deployment, full-stack development, wireless network design and server disaster recovery.
- Notable clients are primarily in the legal, entertainment and construction industries.



Google | Operations Engineer II / DT3

Global & 3rd Party Datacenter, Engineering Field Services, Hardware, Network & Server Operations | Charleston, SC; Reston, VA | Dec 2018 – Dec 2021

- Developed a suite of scripts for automation to aid in fleet deployment, maintenance and fault resolution covering the approx 1/3 of the east-coasts' Google fleet. Languages used included Python,

Ruby, JavaScript/ECMAScript, BASH, BASH, HTML & JavaScript on the global CI/CD (internal) GitHub.

- Provisioned Active Directory and GPO accounts for biometric, RFID, and physical access systems contained in the 3rd party datacenters and edge portion of the fleet.
- Provided engineering field services of deployment, configuration and troubleshooting of Google servers, network and infrastructure devices.
- Deployed, maintained and configured the internal rack security units as well as external physical perimeter protection devices.
- Received 19 Peer Bonuses, and 2 Awards for Hurricane & Pandemic Support.

Switch LTD | Datacenter Technician

Network Operations | Las Vegas, Nevada | July 2017 - Dec 2018

- Deployed customer network configurations from schematic to configuration, utilizing a wide variety of industry vendors including Cisco, Juniper, Cienna, Palo-Alto, Dell, HP, Checkmate, Alcatel-Lucent as well as other proprietary equipment.
- Provided network incident detection in the internal Network Operations Center and issue escalation, for outages on customer nodes as well as production upstream links.
- Coordinated with Engineering teams from over 2,300 customer deployments to provide regional technical support issues on customer provided infrastructure ranging on deployments that ranged from 1RU, to multi-campus / LAN and multi-sector-wide / WAN deployments.
- Ensured perimeter security and conducted routine production infrastructure security audits in compliance with customer provided ISO specifications.

Pinnacle Community Services | IT Support Technician IV

Information Technology | Las Vegas, Nevada | Oct 2016 - June 2017

- Designed, built and migrated the company back-end infrastructure over to HIPAA compliant, open source and license free solutions..• Implemented strategy to acquire ISO 27001 compliance for the internal datacenter.
- Provided systems administration, network design, deployment and support for the Nevada region covering 30 remote locations and three office campuses; in a mixed Windows Server 2016, RedHat, OpenSuse, FreeBSD and Ubuntu environment.
- Conducted forensic investigations to procure data for human resource and legal departments utilizing Autopsy, the Sleuth toolkit, PhotoRec and self-developed Log analysis software.
- Modified and secured the Active Directory Group Policy Objects (GPO) of the production network to properly reflect and align with organizational restructuring.
- Created and migrated the data storage servers to fully encrypted internal storage at rest and in transit.
- Created the secondary backup file servers and using best practices; security hardened the BSD platform.





Scientific Games | Technical Specialist II

**Technical Training & Documentation | Las Vegas, Nevada | Nov 2013
– April 2015**

- Managed and created the company's internal training database utilizing SQL on a MySQL deployment; and implemented it into its eventual migration to the production Office 365 SharePoint servers.
- Designed and built the mem-cached Arch Linux prototype server infrastructure to distribute the in-house training videos out via the company WAN.
- Interfaced with Hardware & Software Engineering teams to develop internal training to distribute to ~680 technicians globally on a monthly release cycle.
- Designed, developed and built the companies first Casino training laboratory. This mirrored the in-field deployment for the entire product line of gaming machines and networks.



Alchemy Computing | Freelance Technical Consultant

Web Development, Computer Repair, Electronics Prototyping | Los Angeles, CA | Sept 2009 – Nov 2013

- Services included, small business desktop and infrastructure support, web development and design, electronics product prototyping development, wireless penetration testing, data recovery, forensic analysis, wireless network design and server disaster recovery.
- Notable clients were primarily in the legal, entertainment and cosmetic industries.



British Telecom | Network Event Management Technician III

Global Operations Tier 3, Converged Services Management Center | El Segundo, California | May 2008 – Sept 2009

- Created and deployed the workstation images used for the NOC, assisted in the consolidation of software used from 12 different teams into one.
- Provided Tier 3 support, including the provisioning, maintenance and performance monitoring of BT-Infonet's internet backbone; in a cross-platform; mixed vendor environment; platforms included Cisco, Alcatel Lucent, Juniper & Cienna based equipment.
- Protocols included: MPLS, EIGRP, IGRP, Frame-Relay, TCP/IP V4/V6, SIP, ARP, CDP, 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.
- Designed, developed and implemented a computer vision application utilizing the OpenCV API to notify technicians of network alarm status.



Synetcom Digital | Junior Electronics Engineer

Torrance, California | June 2006 – Nov 2007

- Developed and implemented IPSec on the Active Directory LAN intranet and secured it in a mixed windows Linux development environment.



- Designed and converted existing customer networks to support fail over resistant mesh network topology utilizing FHSS (frequency hopping spread spectrum) radios.
- Conducted Wireshark traffic and packet analysis to help secure and harden SCADA radio networks in point-to-point, star, bus and wireless mesh topologies.
- Developed and implemented software utilizing the embedded System on Chip encryption modules with AES256 to secure video over radio communications.
- Utilized Kismet, Spectrum analyzers and custom built software to conduct wireless penetration testing to ensure communication security.
- Worked in the engineering team developing industrial SCADA radios for monitoring digital IO, 4-20ma sensor loops, PWM, and industrial video applications.
- Designed, conducted and implemented quality assurance and field simulation testing for complete product range.
- Created laboratory experiments to emulate exhibited field errors and develop for more solutions to solve them.
- Researched and integrated emerging technologies into new products for field deployment.

DeVry University | Computer & Electronics Laboratory Work-Study, & Tutor

Office of Academic Support and Instruction Services, Advanced Development Laboratory, Network Laboratory, Computer Laboratory, Electronics Laboratory | Long Beach, California | Mar 2004 - June 2006

- Worked closely with the IT department on campus to roll-out user profiles, administer accounts to new users, assist faculty with technical issues, and provide off hours support, deployment & reconfiguration for campus infrastructure.
- Technologies used included Novel, Windows XP - 2000 - 7, Windows Server IIS, Gentoo Linux, Active Directory, MatLab, SPICE, Cisco Routers and switches, UNIX & Tape backup systems, Network Cat2, Cat5-5e deployment, RS-232 & 485.

Technical Skills & Security Tools:

Vulnerability Assessment Tools:

Nmap, Net Stumbler, Netcat, Kismet, Wireshark, Kali Linux, Pentoo Linux

Languages:

C, C++, Java, SQL, BASH, ~~ETX~~TeX, YACC, YAML, XML, HTML, CSS, JavaScript, Ruby, Python, Assembly

Cloud / Server / HyperVisor Operating Systems:

Windows 10, Windows 2016, RHEL 7, Debian, Gentoo, VMWare, ESXi, OpenBSD, FreeBSD, NetBSD, Docker, XCP-NG, EVE-NG, VirtualBox

Applications:

Office, SharePoint, Adobe Premiere, Adobe After Effects, Adobe Photoshop, Adobe Illustrator, MATLAB, Slicer (3D Printing)

Databases:

PostgreSQL, MS SQL Server 2008, MS Access, MySQL

Personal Projects:

"Homelab" - FOSS Home Computing

<https://sites.google.com/view/justinsdevlab/home>

Description:

Fully self hosted search, DNS, firewall, remote access, file storage, cryptocurrency mining and blockchain hosting.

Technologies used:

SearxNG, dnsmasq, Cisco 1841, Palo-Alto PA-500, OpenVPN, IPSEC, GRE, BGP (dn42), FreeNAS, NFS, Monero, Dash, Litecoin, Ethereum, Bitcoin (miners and full-nodes)

"Cyboard" - Longboard Security System and Datalogger

Description:

Raspberry Pi based "Smart skateboard", with on-device weather detection, keyfob to "lock" the board, motion and location detection for "ride-data".

Technologies used:

Python, SQLite, GPS PA1616S, Raspbian, NeoPixel LED, Remote Control Encoder PT2262, SHT30 Sensor, ADXL343 - Triple-Axis Accelerometer

"Video LAN Checker" - VOIP Security Camera Management

<https://github.com/jknoxdev/video-lan-checker>

Description:

Scripts to aid the security camera installer, currently scans the network to detect any cameras, shows encrypted traffic status. Draws diagram of connections to router.

Technologies used:

LLaMA 7B, ChatGPT, Python, PostgreSQL, SQLite, Azure, GCP, AWS, ARP, DNS, DHCP, RTSP, RTP

Education:

Graduate Student, Master of Science in Computer Science

University of Tennessee, Knoxville, Dec 2022 - Present

Web Development Full Stack Bootcamp

LeWagon, Rio de Janeiro, Brazil, June 2021 - Sep 2021

Bachelor of Science, Computer Engineering Technology

DeVry University, Long Beach, California, Oct 2003 - March 2008 GPA: 3.58, Summa Cum Laude, Academic Honors: Dean's List, 2003 - 2007

Certificates:

(ISC)² Certified in Cybersecurity / CC

International Information System Security Certification Consortium (ISC)² Active as of: September 2022