mcdowellphilip5@gmail.com φ plmcdowe.github.io

CISSP (1867476) 05/28

CCNA 200-301 (14325030) 03/26

**Sec+ 501** ce (001021335961) 06/27

Note: the character phi  $\varphi$  is used to denote items with associated code or documentation, available at my GitHub listed above.

# Network Security & Compliance Engineer (GS-2210-12)

J6 Special Staff – IN Army NG, Joint Forces HQ: 2002 S Holt Rd, Indianapolis

12/01/2023 - present

Focus on Future Operations to ensure a secure & compliant enterprise. Develop, test & document solutions to enterprise wide changes in the physical & logical domains. Automate implementation, where possible, or deliver a documented solution for step-by-step deployment in Current Operations. Responsible for: IAM & NAC (Forescout Counteract & ISE TACACS+); STIG compliance of network devices; mitigation of CVEs; research & selection of purchases for network device lifecycle plan; participation in technical review of Change Management Requests; documentation of artifacts for Enterprise Mission Assurance Support Service (eMASS).

- Migrated the entire state's 802.1x & MAB functionality from Cisco Identity Services Engine to Forescout Counteract.
- Briefed the State Adjutant General with CIO on security posture of the enterprise in response to national concern.
- ullet Developed Bash scripts in IOS.sh to interactively configure switches "on the box" for production deployment. ullet
- Developed Bash scripts in IOS.sh to automatically reconfigure switches & routers in production to STIG compliance.  $\varphi$
- Developing scenario-based training & troubleshooting IOS.sh environments for the Network Administration (NA) team.  $\varphi$
- Developing scored & ranked "STIG challenge's" in IOS.sh on IOS-XE switches for the NA team.  $\varphi$
- Configured & deployed C8300 SIP Cisco Unified Border Element routers between ITSP & enterprise CUCM.
- With Network Engineering peers & NA team planned for, then deployed:
  - C8500 router, C9400 switch, N9K switches & MDS Fibre Channel switches at the Alternate Site in one weekend.
  - C8500 router & C9600 switch at the Primary Site in one weekend.
- Developed pre-admission policies within Forescout for Radius 802.1x & MAB authentication of:
  - Windows clients, printers, Cisco VoIP devices, IOT security & HVAC devices, Wireless Access Points & Wireless Clients.
- Developed PowerShell scripts & policy actions in Forescout to:
  - Identify & remove unauthorized software from Windows clients.  $\varphi$
  - Identify & remove unauthorized USB device drivers from Windows clients.  $\varphi$
- Created reporting & alerting policies in Forescout to track:
  - Windows: OS releases; update states; open ports; user sign-on; 802.1X & MAB events; Wired L2 policies; X.509 certs.  $\varphi$
  - Cisco network device's OS versions & hardware models.
- Leveraged Cisco DNA-C to monitor & alert for Cisco Security Advisories, tuning results based on advisory criteria.
- Recovered DNA-C with Cisco TAC after a failed update killed services.
- Redeployed fresh Identity Services Engine MNT and PSN nodes in Primary / Alternate site vSphere platforms.
  - Reconfigured TACAS+ Policy Set with greater Authentication & Authorization fidelity.
- ullet Deployed, for testing purposes, Grafana with Loki to perform Syslog collection, retention; analysis.  $oldsymbol{arphi}$
- Replaced Primary Site's AireOS 5000 series Wireless LAN Controller with Catalyst 9800 WLC.
- Replaced the Primary Site's N5K & 2K datacenter switches with N9K switches.  $\varphi$
- Started & contributed to the Network Engineering OneNote, documenting all aspects of the enterprise.  $\varphi$
- Developed Python program to ingest running configs offline & return the required config changes for STIG compliance.  $\varphi$
- Developed Python program to generate site-specific router configurations at baselined compliance.  $\varphi$
- Resolved STIGs in the checklists below on over 800 network devices for Command Cyber Readiness Inspection, 2024.
  - (60) IOS & (59) IOS XE Switch "L2S" & "NDM" rules
  - (53) IOS-XE Router "RTR" & "NDM" rules
  - (56) NX OS Switch "L2S" & "NDM" rules
  - (22) WLAN "Controller Platform"; "Controller Management" & "AP" rules

# Senior Network Administrator (GS-2210-12)

10/01/2021 - 12/01/2023

Network Operations Center - IN Army NG, Joint Forces HQ: 2002 S Holt Rd, Indianapolis

The GS-12 Team Leader of six GS-11 Network Administrators, responsible for: maintaining classified (SIPR) & unclassified (NIPR) DoD-Information Networks spanning over 60 remote sites, connecting 2,500 daily users, on more than 1,000 Cisco network devices.

- Configured, tested, & lifecycled HAIPE encryption devices for the classified (SIPR) network across the state.
- Oversaw the lifecycle of SIPR networking devices.
- Configured & deployed an IOS-XE C9800 WLC at the organization's alternate site.
- Configured Identity Services Engine; AireOS & Catalyst WLCs for 802.1x authentication to the WLAN by X.509 certs.
- Configured, tested & deployed the lifecycle upgrade of N5K & 2K datacenter switches at the primary site SAN.
- Oversaw the successful lifecycle of the primary site's N7K CORE switch.
- Oversaw the lifecycle of more than 700, IOS to IOS-XE, switches across the state.
- Tested, then oversaw the deployment of upgraded wireless access points throughout the state.
- Tested, then oversaw the conversion of edge router MGCP gateways to SIP through DNA-C Jinja2 config templates.
- Utilized DNA-C to modify ssh trustpoints & pki chains to enable token-based TACACS+ authentication to network devices.
- Utilized DNA-C to deploy Survivable Remote Site Telephony (SRST) configurations to all edge-routers.
- Modified network objects & fastpath prefilter rules in Firepower Management Center on ASA devices.
- Reviewed & directed the response to NETCOM Cyber Tasking Orders (CTOs).

### Network Administrator (GS-2210-11)

09/01/2020 - 10/01/2021

Network Operations Center - IN Army NG, Joint Forces HQ: 2002 \$ Holt Rd, Indianapolis

One of six GS-11 Network Administrators. This team earned a passing score in the Network Domain of Command Cyber Readiness Inspection, 2021. Responsible for maintaining classified (SIPR) & unclassified (NIPR) DoD-Information Networks, spanning over 60 remote sites, connecting 2,500 daily users, on more than 1,000 Cisco network devices.

- Successfully configured, tested & lifecycled the primary site's Aggregation Services Router.
- Remediated log4j vulnerabilities across Cisco Unified Communications Manager & Identity Services Engine nodes.
- Resolved CAT I STIG ID: CISC-RT-000130 on over 60 edge routers by creating a Python program which automated the modification of extended ACLs for subinterfaces, preventing traffic destined to itself.  $\varphi$
- Developed a Python program to remotely determine if router FXO interfaces have in-service phone lines connected, then automatically rebuilt the edge-router's dial-peers.  $\varphi$
- Configured, tested & deployed Cisco MDS Fibre Channel switches for data replication at the primary site SAN.
- Resolved CAT II STIG ID: CISC-L2-000090 on over 700 access switches by creating a Python program to automate the configuration of spanning-tree guard root.  $\varphi$
- Resolved CAT II STIG findings on all router & switch ACLs by creating a Python program to automate reconfiguration.  $\varphi$
- Worked closely with IA team to troubleshoot & deploy changes to extended VoIP ACLs across the state, allowing successful ACAS scans of the VoIP network before 2021 Command Cyber Readiness Inspection.
- Through a coordinated effort with DISA, migrated T1 DSNs to SIP trunks.

# Battalion S-6, Signal Staff Officer (CPT/O-3)

HHD, 127th Cyber Protection Battalion

08/01/2020 - Present

Responsible for: deployment, maintenance & security of network infrastructure facilitating defensive & offensive cyber activities; accounts & access to virtual training environments; planning & orders production for operations involving the battalion, companies, & teams. Recognized for accomplishments during Cyber Shield 2024: in less than 72 hrs. before exercise start - guided the training facility's Network Administrators in resolving misconfigurations on newly-deployed Cisco equipment responsible for the campus WAN; planned & assisted deploying apx. 30 additional switches to extend connectivity; enabled the timely start & successful completion of the two week exercise involving apx. 2,000 participants.

### Signal Company Commander (CPT/O-3)

08/01/2020 - 04/01/2024

338th Brigade Signal Company, 38th Sustainment Brigade

Selected by the Signal Advisory Board for company command. As Commander of a Brigade Signal Company, ensured the wellbeing & technical proficiency of 37 Signal Soldiers. Additionally, maintained complete accounting of more than \$25 million in communications equipment. Planned & oversaw deployment of tactical, satellite band network equipment to provide 24-hour voice & data networks to the 38th Sustainment Brigade. Recognized for integral role in exercise successes.

# Battalion S-6, Signal Staff Officer (1LT/O-2)

01/01/2020 - 08/01/2022

HHB 2/150 Field Artillery Battalion

Hand-picked by Brigade, HR Staff Officer, to serve as Battalion Signal Officer. Directed 5 Non-Commissioned Officers & 5 Soldiers to deliver reliable communications on: VHF radio, satellite band Joint Battle Command-Platform (JBC-P) & Command Post of the Future (CPOF). Integrated 3 Field Artillery Batteries & 1 Support Company into Battalion voice & data networks, enabling the safe & successful execution of numerous live fire exercise. Liable for the maintenance & accountability of S-6 equipment, valued more than \$1 million.

#### Joint Network Node Platoon Leader (1LT/O-2)

11/01/2017 - 12/01/2019

738th Brigade Signal Company, 219th Engineer Brigade

Rated "Most Qualified" on 2 of 2 Officer Evaluation Reports (OER) while Platoon Leader. Leveraged fully, opportunities for signal training & Soldier counseling to advance the abilities of 2 Non-Commissioned Officers & 14 Soldiers. Maintained accountability & furthered corrective maintenance of equipment valued more than \$4 million. Provided voice & data network services throughout 3 Command Post Exercises for Nevada's 17th Sustainment Brigade.

# Logistics Project Officer (1LT/O-2)

07/01/2018 - 09/01/2019

38th Infantry Division

Managed the logistical requirements of 3 Division exercises, each with over 1,000 participating Soldiers. Precisely created & facilitated the execution of multiple contracts totaling more than \$1 million. Directed recoupment of exercise funds from units across the country, ensuring no fiscal-law violations were created. Guided Division mobilization preparation, coordinating movements of equipment & personnel overseas. Oversaw the "Financial Liability Investigation of Property Loss" program, synchronizing FLIPL investigations Division wide, resulting in a faster FLIPL resolution rate.

# Assistant Team Leader (SGT/E-5)

04/17/2008 - 11/15/2017

D Co. 151 Long Range Surveillance (ABN)

Excelled in numerous positions culminating as Assistant Team Leader. As the ATL, supervised our team's rigorous 24-72 hour planning phase for reconnaissance & surveillance operations – requiring time, task, & knowledge management. On mission, accountable for all team equipment valued more than \$500,000, & responsible for team members' welfare. Ultimately, time served as ATL fostered the ability to thrive in small team environments. Developed interpersonal skills & conflict resolution techniques, management abilities, & exacting attention to detail.

# **Education**

#### **Purdue University**

West Lafayette, IN Professional Master of Science in Computer Science Currently Enrolled – Fall 2026

Credit hours: 18 of 30

Concentration: Information & Cyber Security

# **Summary of Completed Courses**

# CS 50010 Foundational Principles of Information Security:

Data structures; algorithm design; computational complexity; probability theory; number theory; basics of cryptography.

# CS 50011 Introduction to Systems for Information Security: $\varphi$

Security-critical software vulnerabilities in C/C++; basics in architectures; assembly languages; the compiling process.

# CS 52600 Information Security: φ

Authentication & protection models; security kernels; secure programming.

Audit; intrusion detection & response; operational & physical security issues; personnel security.

Policy formation & enforcement; access controls; identification & authentication; classification & trust modeling; risk assessment.

# CS 52900 Security Analytics: φ

Machine Learning implemented in Python - classification trees, logistic regression, naive Bayes, KNN, SVM.

Neural Networks implemented in Python - Feed Forward, Convolutional, & Recurrence; the application of these algorithms to security tasks.

Exploitation techniques of NN models including practical exercises in the generation of targeted & non-targeted adversarial images.

The implementation of defensive techniques to mitigate the effectiveness of those images.

### CS 54100 Database Systems: φ

Logical design of database systems - ER; semantic; relational; hierarchical & network models; implementations of the models.

Design of query languages; use of semantics for query optimization.

Design & verification of integrity assertions & security; intelligent query processing and database machines.

### CS 55500 Cryptography: φ

Principles of secrecy systems - PPT, CPA, CCA; Pseudo Random Generators & Functions; information theory & information hiding.

Number theory - modular exponentiation, discrete log & factoring problems; generating random primes.

Constructing - ECB, CBC, OFB & CTR modes; MAC, Hash protocols, HMAC; Signature & Certificate protocols; RSA; DHE & TLS.

Protocol Failures & attacks - Meet In The Middle; Padding Oracle; Signature forgery & disavowal.

05/06/2017 **Indiana University** Credit hours: 171 Bloomington, IN GPA: 3.19 Bachelor of Science in Informatics, Minor in Business

# **Relevant Course Work**

I-101 Introduction to Informatics	I-202 Social Informatics	
I-210 Information Infrastructure I	I-211 Information Infrastructure II	
I-300 HCI/Interaction Design	I-308 Information Representation	
I-400 Prototyping with Arduino Tools	I-407 Intro to Health Informatics	
I-453 Computer & Information Ethics	I-494 Design & Dev of an Info System	
1-495 Design & Dev of an Info System		

#### Ivy Tech Community College 12/14/2013

Associate of Science in Business Administration

Certifications		
CISSP	(1867476)	05/2025 - 05/2028
CCNA 200-301	(CSCO14325030)	03/2023 - 03/2026
CompTIA Security+ SY0-501 ce	(COMP001021335961)	06/2018 – 06/2027

Training	
Comply-to-Connect Enhanced Forescout Certified Processional (FSCP)	02/2024

Comply-to-Connect Enhanced Forescon Centiled Frocessional (FSCF)	02/2024
Professional Development & Leadership Training	
Basic Training	08/29/2008
Infantry School	08/28/2009
Basic Airborne Course	09/18/2009
Basic Leaders Course	01/30/2015
Officer Candidate School	09/28/2017
Signal Basic Officer Leaders Course	06/07/2018