

# Karl J. Haworth

(231) 357-1189  
karlhaworth.com  
me ( at ) karlhaworth.com



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## About

Highly motivated, leadership driven, team player, and quick learner with extensive experience in computer applications and statistical reporting. Creative thinker and problem solver with exceptional planning and analytical abilities.

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## Education

[Albion College](#); Albion, Michigan  
Bachelor of Arts  
Major: Economics and Management  
Minor: Statistics  
August 2010 – May 2014

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## Experience

### Principal Engineer, IT DevOps

American Airlines

June 2020 – Present

Worked in the Delivery Transformation organization architecting solutions for automation using devops methodologies

- Develop overall strategic technical plan and create architecture proposals based on identified solution gaps
- Create solutions with high level of innovation, cost effectiveness, high quality and faster time to market
- Contribute to the overall strategy and manage complex issues within functional area of expertise
- Serve as a Subject Matter Expert in Automation architecture
- Collaborate with business and technical partners to identify and scope the opportunities, outline potential value and ROI, identify risks, benefits and constraints

### Network Automation Engineer

American Airlines

June 2019 – June 2020

Worked in the Enterprise Network Automation organization architecting solutions for automation using devops methodologies

- Develop overall strategic technical plan and create architecture proposals based on identified solution gaps
- Create solutions with high level of innovation, cost effectiveness, high quality and faster time to market
- Contribute to the overall strategy and manage complex issues within functional area of expertise
- Serve as a Subject Matter Expert in Automation architecture

### Senior IT Infrastructure Engineer

American Airlines

January 2018 – June 2019

Worked in the Enterprise Network Services department deploying, optimizing, and creating engineering toolsets.

- Plan, create, and document processes for new platforms
- Evaluate and correct the integrity of existing systems
- Plan, create, and implement automation between platforms
- Maintain and administer multiple platforms including products from Riverbed, CA Technologies, Infoblox, and Gigamon
- Troubleshoot network and network device issues with routing and administration
- Implement data monitoring and collection equipment based on diagrams and run-books provided by architect

## **IT Infrastructure Engineer**

American Airlines

June 2016 – January 2018

Worked in the Enterprise Network Services department with network and application performance monitoring toolsets.

- Implement data monitoring and collection equipment based on diagrams and run-books provided by architect
- Plan, create, and document processes for existing platforms
- Maintain and administer multiple platforms including products from Riverbed and CA Technologies
- Troubleshoot common network and network device issues with routing and administration

## **Associate IT Infrastructure Engineer (ADEPT)**

American Airlines

June 2014 – May 2016

The American Airlines Development Program for Technology (ADEPT) is a college recruiting program created to develop a technical talent pipeline for Information Technology(IT).

- Deploy functional networks
- Configure and install various network devices and services
- Maintain complete technical documentation
- Resolve issues that tiers of support have escalated
- Perform network maintenance and system upgrades

## **Statistical Analyst Intern**

US Airways

July 2012 – June 2014

Assisted the Systems Engineering & Operations staff with support, analysis, and reporting.

- Creation of performance metrics
- System performance and capacity planning analysis
- System troubleshooting and documentation of complex processes
- Engagement of software vendors and internal development staff to resolve problems as necessary

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## **Technical Skills**

Kubernetes Python CI/CD Docker GIT Rest APIs Relational Databases (MSSQL, MySQL) Cisco Networking DNS DHCP Process Automation Network Management Systems Shell scripts Batch Powershell Cloud Environments Network Data Aggregation and Mapping HTML/CSS Responsive Layouts PHP Perl Mac OS Windows OS Linux Cisco IOS

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## **Awards**

### **Delivery Transformation Principals Award**

This team developed a comprehensive interface to deliver Infrastructure for IT-to-IT, and enable Real Time delivery of our products through automation. Their automated and integrated delivery infrastructure will be a huge time saver for many teams in the infrastructure procurement process.

- *Chief Information Officer (CIO), Executive Vice President (EVP)*

**Notable Recognition**

I wanted to let you know that I was on a call for a Runway demo and discussion and was very impressed with Karl. He has a great understanding of the platform and the technology of course, but his patience, and willingness to engage and even debate in a very productive and respectful manner was impressive.

- *Vice President (VP) Corporate Technology*

Feb 5, 2021

Terrific work on Project 42 - I loved seeing the progress you've made. This will have a huge impact on how we work and I so appreciate all your hard work. Keep it up - you are making us all better.

- *Chief Information Officer (CIO), Executive Vice President (EVP)*

November 13, 2019

SELFLESS: Karl has been helping multiple infrastructure teams in their automation and self service journey. He provides training, shares his knowledge to boost the teams to get started on development with Runway. This is on top of his own development commitment. But he never push the other teams away when they need him.

- *Sr. IT DevOps Automation Manager*

September 10, 2020

Karl, I just want to thank you for all you do to enable the DEA group move forward on our automation efforts. You are a great technical leader, so patient, and such a good mentor to my team. I'm glad to have you on our squad! #selfless

#passionate

- *IT Data Warehousing Manager*

March 1, 2021

Karl, Great automation demo this week, you rock!

- *Vice President (VP) Enterprise Technology Services*

July 19, 2019

Thanks for everything that you do for the team and for all of AA. I am very glad that I had a chance to work with you this year!

- *Sr Consultant*

December 4, 2020

#passionate Thank you for constant eye on bugs and finding practical solutions. Not to mention all the times you've helped debug vra, scaffold, etc. #selfless Thanks for providing community contributors guidance and 1on1 help when needed. This more than anything is what will make Runway Successful.

- *Developer, IT Applications*

December 11, 2020

Karl, thanks for all your help with the Data Lake Review Page effort over the past few months! You've been great at understanding what my team needs and advising me on how to design new features on Runway. You know the architecture of the Runway system very well. Also, I really appreciate that you are readily available to help me with technical issues when I try to finalize code (e.g. test cases not working, Git problems). I look forward to continuing to work with you on functional access.

- *Associate Developer, IT Applications*

December 11, 2020

Karl, I appreciate all your help with the Azure service principal access over the past several weeks! The API calls, especially, were very difficult to write and debug--thanks for guiding me through that.

- *Associate Developer, IT Applications*

March 2, 2021

#passionate #caring Thank you for the support you provide and answering our questions without any delay when ever we need. Highly appreciate for helping us (ITCE team) in setting up the apigee implementation in Runway

- *Sr. Engineer, IT Middleware*

December 22, 2020

First of all, thank you for stepping up and take the responsibility to lead the Runways squads. I was expecting you to catch up gradually since you are relatively new to software development, and the amount of work and number of teams involved in Runway is enormous. You know what, I didn't even notice the transition. Two weeks later, I'm looking at a more

organized and clean project space and more effective scum meetings. It's not just me, I also heard great feedback from your teammates that they feel their heads are more clear now. #accountable Wonderful job Karl! keep it up.

- *Sr. IT DevOps Automation Manager*

December 21, 2020

I attended the Interact Studio today and the 'Now' Project 42 team presented yielding amazing comments from the audience. I have a belief one of the key items I have learned about amazing leaders...it's not necessarily what they did when they were there. The true testament of a leader is if the leaders principles live on for others to progress when the leader moves on.

Great work my friend, 42 Thrives.

- *Network Architect Manager*

July 31, 2020

Karl is an exceptional engineer! He is reliable, delivers quality work on time and takes on any challenge presented. He is dedicated and hard working and has become quite a star among the team! His peers look to him for support and guidance in his areas of expertise. Karl lead the Tools team to success by ensuring the Roadmap was completed and reviewed at a regular cadence. Thank you for all you do Karl!

- *Network Services Manager*

December, 2017

Karl is passionate about what he does and how he does it. His collaborative approach and desire to work with others will enable IT to push together as ONE team. As we continue to move to an Agile and Devops organization, Karl has been a leader to help sharpen our multi-discipline areas such as knocking down roadblocks for the teams. Karls's passion for "team" is awesome and balancing it in communications with other departments will help drive excellence for us in 2019 across other orgs. Additionally, his caring personality, putting the needs of others first and regard for the each person is very apparent and an awesome strength. Overall, Karl has great momentum and I am looking forward to a productive 2019.

- *Network Services Manager*

January, 2019

Karl consistently keeps ahead of the curve of developing technologies for his area of expertise, often leading others to solve security related issues with development tools.

- *Network Architect Manager*

January, 2019

Working as a team for the H3C insourcing your automation solutions for migrating switches from HP(DXC) Managed to AA Managed has enabled the Network Engineering team to achieve the result of migrating 100 switches or more in a change. This type of automation never existed before, thank you for your long days and nights to enable this automation solution for the Airline.

- *Network Engineering Manager*

June 20, 2017

Karl has great scripting skills and leverages them to streamline work when applicable. As AA IT continues to drive toward more automation, Karl is the key resource on the Services team to assist in that growth.

- *Network Services Manager*

December, 2017

Karl's demeanor is one of operational excellence. Karl regularly solicits feedback from peers on improvements and implements.

- *Network Architect Manager*

January, 2019

Thank you for taking the time to talk to me about your automation journey and how our teams can collaborate to integrate our tools. Thanks for all you do.

- *Network Security Manager*

August 4, 2019

Karl took it upon himself to develop a platform that would automate common tasks to correctly insource and monitor systems. These task were very time consuming on engineers and administrators. This was not an easy task since there were 5 separate and very different platforms that he needed to code for based on their API capabilities. This new platform will free up several man hours per request and allow adminstrators and engineers to concentrate on more pressing work.

- *Network Services Architect*

August 15, 2018

Hi Karl, Always been a fan of yours thinking outside the box! Project42 needs young, energetic and intelligent ones like you! Thanks for working in collaboration with our LCM team and others.

- *Sr IT Project Manager*

March 31, 2020

Karl - On behalf of the entire LCM team we would like to thank you for working so diligently on the information we requested. You put a lot of time and effort into this and we all appreciate it more than you know!! Your team work and dedication to collaboration is to be commended. Thank you again!!

- *Network Services Team Lead*

March 26, 2020

Thanks Karl your work on Project 42 is awesome and that is gonna help us to reduce lot of manual work.

- *Network Security Engineer*

September 30, 2020

Karl is a colleague that every one can dream of to work with. He is one of the few on whom we can rely on anytime, any situation. The best back up I ever got in my experience. He always makes me proud when I come back from vacation by keeping up with work. I can plan my vacations without hesitation and less worried, just because of him. He has added a great deal of automation to our tools which has reduced the daily work load of the entire team. Which in turns helps to reduce manual errors and be more reliable. Thank you Karl!!

- *Network Tools Engineer*

August 20, 2018

Thank you Karl for assisting with all the Network Tools questions recently. You are a very reliable team mate who is always open to help others. Appreciate your patience and all the help. :)

- *Network Tools Engineer*

March 10, 2020

From the day I started working at AA Karl has been very instrumental in collaborating with me. He thrive on finding better ways to do things and is always available for assistance. he has made my integration at AA very smooth and I would like to take this chance to say thank you and look forward to a continuous collaboration and innovation.

- *Application Developer*

March 5, 2020

Thank you for consistently bringing value to the company, being open-minded to new ideas, and for all you do to maintain the integrity of the tools.

- *Sr Network Engineer*

June 7, 2018

Thanks for the hard work done on the new ENS portal tool. Its laying the foundation to lots of great tools to come.

- *Network Tools Engineer*

June 1, 2018

Just wanted to say thanks for helping out with troubleshooting some major issues in the DataCenter and taking the time to get me the tools I needed. True team work mentality.

- *Sr Datacenter Network Engineer*

April 4, 2018

Thank you Karl for being the professional engineer that you are. I cannot count the number of times you have stopped what you were doing to assist network engineering with showing how to use a specific tools or recommending solutions to problems. You are an example to us all Karl. We look forward to hearing all the great things you will accomplish in the future.

- *Network Engineering Team Lead*

November 28, 2017

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## Projects

### Infrastructure Orchestration Platform

April 2018 - June 2020

#### Problem

All requests for infrastructure are done though a ticketing system and then multiple administrators manually perform the required task hours or days later, in multiple platforms creating a long lag in the time to delivery.

#### Solution

An orchestration platform for infrastructure requests was created that is secure with enterprise authentication, fully logged, provides an attractive and easy to use interface, and reduces the time to delivery through APIs and automation while

standardizing and creating relationships among infrastructure objects.  
Kubernetes HTML CSS Python jQuery REST APIs Websockets Gunicorn App Server MySQL Linux Server Docker  
Containers Jenkins CI/CD Active Directory Regular Expressions SNMP SMTP Redis Celery RabbitMQ S3 Object Storage  
Cisco PnP Nornir Nginx

- Set out the integration strategy
- Define technical designs and implementation of system integrations/API Gateways
- Define, implement, and manage the development architecture and supporting toolsets required to build and test complex applications in an efficient and rapid manner
- Architect and develop with REST web API services
- Create a mechanism for continuous integration and continuous delivery (CI/CD)
- Communicate with other stakeholders/end users in the software development lifecycle
- Work within a project management/agile delivery methodology in a leading role as part of a wider team
- Create automated deployment mechanisms from code push
- Documentation of solutions (e.g. data models, configurations, and setup)
- Ensure that platforms and data solutions can be deployed and operated in a highly repeatable and predictable manner
- Requirements Analysis and Solution Architecture Design

**H3C Firmware Upgrade Automation**

February 2019

Problem

Engineers have to manually upgrade the firmware on H3C devices as they are unsupported by all enterprise tools.

Solution

Create Perl script inside of CA Spectrum to push firmware with the expect module for an interactive automated session.

CA Spectrum Perl Scripting Expect Scripting Regular Expressions Comware OS (H3C)

- Set out the integration strategy
- Define technical designs
- Communicate with other stakeholders/end users in the software development lifecycle
- Requirements Analysis and Solution Architecture Design

**Network Device Insourcing Automation**

March 2016 - June 2016

Problem

Migrate thousands of devices from an outsourced vendor to in-sourced.

Solution

Created plan of migrating devices via SNMP TRAP and using SNMP to rapidly rewrite device configurations in bulk.

CA Spectrum Perl Scripting SNMP Comware OS (H3C) SSH

- Define technical requirements
- Automate migration workflow
- Optimize communication by implementing SNMP over SSH to reduce time to configure and reduce implementation failures
- Develop new capabilities in existing toolsets to communicate with newly acquired unsupported devices
- Communicate regularly with management regarding status
- Work with platform administrators and engineering teams to implement and validate solutions




Karl Haworth is from Traverse City in northern Michigan and attended Traverse City Central High School. During his time in high school, Karl found the Manufacturing Technology Academy (MTA) program, a national and state award-winning STEM academy where he participated in the [National Robotics Challenge \(NRC\)](#). Karl later attended Albion College in Albion Michigan where he studied Economics, Management, and Statistics. During his studies at Albion, Karl

discovered an internship with US Airways in Tempe Arizona where he performed studies of various IT applications and groups for process improvement. After graduation, Karl was given the opportunity to join the American Airlines Development Program for Technology (ADEPT), a college recruiting program created to develop a technical talent pipeline for Information Technology (IT) and continued on with American Airlines for permanent employment. To continue to grow his knowledge in various areas, Karl operates a home lab in his free time consisting of multiple RAIDs in hot swap chassis with a mixture of Kubernetes and Docker containers and other equipment.  
me ( at ) karlhaworth.com



Sitemap

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