Karl J. Haworth

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ABOUT

Highly motivated, leadership driven, team player, and quick learner with extensive experience in application and cloud architecture as well as software delivery. Creative thinker and problem solver with exceptional planning and analytical abilities.

EDUCATION

Albion College, Albion, Michigan   `August 2010 - May 2014`
Bachelor of Arts
Major: Economics and Management
Minor: Statistics

EXPERIENCE

Architect - Developer Accelerator Product Group (DevOps/DevEx), Product Agility   `American Airlines`   `March 2023 - Present`

Worked in the Product Agility organization supporting the solutioning, strategy, and planning of technical implementations

- Responsible for strategy and technical direction for Developer Accelerator working with other Archigeers in Technology and Transformation
- Worked closely with Product Technical Leads and Technical Delivery Managers to determine technical strategy, direction and technical skills needed to the strategies
- Aligned product group strategies to enterprise strategies and principals
- Supported Product Technical Leads and engineers to select solutions meeting our business needs and long-term strategies
- Supported neighboring organizations with **networking design** considerations
- Worked with Engineering staff to **reduce time and complexity** to redeploy and configure major infrastructure **by over 300%** leading to an increase in overall SLAs and KPIs along with elevation in platform criticality
- Supports Product Technical Leads to ensure backlog reflects the right technical solutions to meet product objectives and priorities
- Responsible for **finops** practices within an organization where financial savings were found and improvements to budgets were made
- Architected solution for **layered security** with **secrets management** team and platform to ensure security in dynamic environments
- Identified need, worked with vulnerability management team, and idenfitied proper mechanisms to implement **secure base images** for the enterprise
- Strived towards improvements in CI/CD pipelines and worked with outside teams to ensure success while **reducing time to complete**
- **Contributed to open source** through helm chart updates, Backstage plugins capability enhancements, security fixes, and Dockerfile security improvements
- Launched and Supported multiple **proof of concepts (POC)** as well as beta programs to introduce various services and products to the enterprise
- Implemented **Sigstore** to attest to artifacts produced in CI/CD processes along with **SLSA** provenece and signing

Senior Principal Developer, Product Technical Lead - Developer Experience, Product Agility   `American Airlines`   `June 2022 - March 2023`

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

- Developed overall strategic technical plans and created architecture strategy for shared Kubernetes clusters for enterprise use
- Mentored, guided, and supported developers across American Airlines IT
- Developed the overall automation strategy and managed complex integrations between multiple teams
- Served as a subject matter expert in automation architecture

Principal Programmer, Product Technical Lead - Developer Experience, IT DevOps/Applications   `American Airlines`   `January 2021 - June 2022`

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

- Developed overall strategic technical plans and created architecture strategy for a developer portal used across all American Airlines information technology
- Mentored numerous developers in their journey from infrastructure engineering to software development
- Served as a subject matter expert in automation architecture

Principal Engineer, IT DevOps   `American Airlines`   `June 2020 - January 2021`

Network Automation Engineer   `American Airlines`   `June 2019 - June 2020`

Senior IT Infrastructure Engineer   `American Airlines`   `January 2018 - June 2019`

IT Infrastructure Engineer   `American Airlines`   `June 2016 - January 2018`

Associate IT Infrastructure Engineer (ADEPT)   `American Airlines`   `June 2014 - June 2016`

Statistical Analyst Intern   `US Airways`   `July 2012 - June 2014`

TECHNICAL SKILLS

`Agile methodology` `Process Automation` `Kubernetes` `Cloud Environments` `Terraform/IAC` `Object Oriented Programming` `Unit Testing` `TypeScript` `React` `Express` `Python` `CI/CD` `Docker` `git` `Rest APIs` `Relational Databases` `Networking`

RECOGNITION

I wanted to thank you for being an absolute pillar of knowledge here at American. You are an extremely valuable developer that is always willing to assist others no matter the problem at hand. You have been a north star for the Airport Agent team and I wanted to recognize your efforts in helping us accomplish our goals.#passionate #selfless
- Associate Developer, IT Applications   `July 17, 2023`

Thank you for always fighting to keep the team's standards of engineering and security excellence as a top priority. We are lucky to have a leader like that challenging and supporting us. #passionate #accountable #selfless
- Principal Programmer/Product Technical Lead, IT Applications   `June 30, 2023`

Karl, as I continue to grow as a new employee at AA, I come across plenty of opportunities where I witness you setting a great example of technical leadership in all aspects of Digital Transformation. Your breadth & depth of expertise is exemplary and a gold standard for other team members to aspire to adopt. Thank you for everything. Looking forward to partnering with you on writing new success stories for AA.
- Sr Principal Architect, IT Infrastructure   `June 30, 2023`

PROJECTS

Global Traffic Manager (GTM) for PCI workloads

PROBLEM

Our current GTM solutions is for external workloads however certain sensitive workloads need internal traffic resolution and routing

SOLUTION

A collaborative effort between the Networking organizations and the Developer Accelerator group to deliver a working solution for internal Global Traffic Management self-service services

`Kubernetes` `GitHub Actions` `FastAPI` `Python` `Operator` `Infoblox` `Global Traffic Manager(GTM)`

- Planned, architected, and managed a team developing internal Global Traffic Management self-service solutions
- Performed requirements analysis and solution architecture design
- Communicated with other stakeholders and end users in the software development lifecycle
- Lead team in parallel programming and design strategies to accomplish task in a reduced timeframe
- Worked with squad members to mentor and develop skillsets towards DNS and GTM resolution along with network routing

Kubernetes Operator for Automation and Abstraction
July 2021 - March 2023

PROBLEM

Kubernetes can be extremely difficult for application teams to utilize and the number of required resource manifests can be overwhelming

SOLUTION

A Kubneretes operator was developed to abstract away the complexities of the native Kuberentes manifests while bringing along the company's best practices. Through templates in the developer experience portal, the reduced yaml spec is easily setup for users and deployed to the clusters using a GitOps approach.

`Kubernetes` `Kubernetes Operators` `GitHub Actions` `Argo CD` `Terraform` `Helm` `Azure` `Ingress Controller` `Service Mesh` `Python`

- Planned, architected, implemented, automated, and managed a Kubernetes Operator being used by customer facing systems
- Communicated with other stakeholders and end users in the software development lifecycle
- Worked with squad members to mentor and develop skillsets to run a successful operator supporting vital business functions
- Architected and implemented a method for automatically updating production deployment based on GitHub releases
- Architected and implemented a method for automatically creating ephemeral environments based on GitHub Pull Requests

Developer Experience Platform - Runway
June 2020 - Present

PROBLEM

Launching applications to the cloud is extremely difficult and time consuming for teams while requiring knowledge in multiple technology disciplies.

SOLUTION

An InnerSourced developer platform along with an automated Kubernetes ecosystem was created for handling onboarding to our cloud environment with click to deploy reducing the time to deliver from months to minutes eliminating manual processes.

`Kubernetes` `Backstage.io` `React` `Typescript` `GitHub Actions` `Argo CD` `Terraform` `Helm` `REST APIs` `Postgres` `Redis` `Azure` `Artifactory`

- Planned, architected, implemented, and managed an InnerSourced developer platform
- Served as the technical lead to a team of developers
- Followed and maintained agile best practices
- Abstracted complex designs and implementations through a simple developer portal using various backend services
- Communicated with other stakeholders and end users in the software development lifecycle

Enterprise Kubernetes Strategy
April 2021 - March 2022

PROBLEM

Many teams operate their own clusters which poses security and maintainability problems along with a duplication of efforts.

SOLUTION

GitHub Actions was selected to run Terraform to standup new clusters along with full bootstrapping of all cluster components. Reduced the time to standup clusters from months to 40 minutes. Handed off to the work to the newly created Enterprise Kubernetes team to continue.

`Kubernetes` `Kubernetes Operators` `GitHub Actions` `Argo CD` `Terraform` `Helm` `Azure` `Nginx` `Kuma` `Datadog` `Artifactory` `Certificates`

- Planned, architected, implemented, automated, and managed a Kubernetes ecosystem being used by customer facing systems
- Communicated with other stakeholders and end users in the platform development lifecycle
- Worked with Enterprise to consolidate clusters and create standards
- Worked with customers to troubleshoot problems within their application deployment

VOLUNTEERING

Mentor - Engineering Academy
Oct 1, 2021 - Present

Engineering Academy Guidance Board Member - Engineering Academy
Oct 1, 2021 - Present

COMMUNITY ENGAGEMENTS

BackstageCon Europe 2024 Program Committee Member - BackstageCon - CloudNativeCon
Jan 26, 2024

Ecosystem Panel - Analyst Event - KubeCon - CloudNativeCon
Nov 7, 2023

Hitting the Runway with Argo at American Airlines - ArgoCon - CloudNativeCon
Nov 6, 2023

Ephemeral Environments from GitHub Pull Requests - DevOpsDays - Phoenix
May 25, 2023

Happy Developers - DevOps Strategies at Scale - American Airlines - Unconference
Apr 20, 2023

Implementing a developer portal - The Engineering Enablement Podcast - DX
Apr 5, 2023

Batteries included: Developer Experience at American Airlines - DevTools Porto: Backstage
May 10, 2022

American Airlines - Developer Experience, part 2 - Canton Coders
Feb 2, 2022

American Airlines Developer Experience Takes Off With Service Mesh - Kong Inc. Blog
Jan 26, 2022

Runway - The Developer Experience Product - American Airlines Tech Blog
Dec 21, 2021