Matthew B. Courter

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Professional Experience

The Equity Engineering Group **June 2024 - Present**

DevOps Engineer

Served as the primary engineer building Azure infrastructure for the Plant Manager 6 application, implementing cloud-native solutions through Terraform and Azure DevOps.

- Led Terraform development utilizing the TerraServices pattern, creating modular infrastructure code for core Azure services including AKS, SQL Server, Service Bus, and networking components
- Built and maintained custom Azure DevOps build agents using Packer running on a VMSS for secure deployments from ADO into our Azure infrastructure
- Created standardized ADO release pipelines for Helm deployments, enabling consistent application delivery into Kubernetes clusters across all environments
- Spearheaded the implementation of an Open Telemetry (OTEL) observability solution in our Kubernetes environments, including integrations into the ElasticSearch APM module for visualization of traces
- Developed multiple Azure workbooks for the cloud support team, consolidating critical debugging information and infrastructure metrics into centralized dashboards
- Guided development teams on build pipeline best practices, including Dockerfile security hardening, Docker BuildKit implementation, and branch-based triggers in ADO
- Architected and implemented a multi-region disaster recovery solution for our production Azure environment, including automated failover pipelines triggered based upon key metrics

Role Specific Skills: Azure, Kubernetes, Terraform, Azure DevOps, Open Telemetry, Helm, IaC, Packer

eNGINE **November 2023 - April 2024**

DevOps Engineer

Contracting with UPMC Health Services as a member of the DevOps Enablement team working on a variety of efforts to further small batch delivery initiatives across Application Engineering.

- Developed a proof of concept to demonstrate the management of Azure Devops resources with Terraform
- Migrated one-off ADO YAML pipelines into generic templates to promote reusability in the deployment of Azure Function Apps
- Wrote Python scripts which utilized the ADO rest API to estimate the scope of an upcoming migration of repositories, variable groups, and pipelines from one ADO project to another
- Worked with existing DevOps teams to identify opportunities for improvements to their release processes & pipelines
- Developed a proof of concept to automate the generation of Postman scripts from an application's OpenAPI spec

Crown Castle **April 2016 - August 2023**

Software Engineer III: DevOps *March 2021 – August 2023*

Member of the DevOps team responsible for deploying CI/CD pipelines & infrastructure as part of a migration from on-prem to cloud solutions. Worked closely with platform and development teams to speed up the process of provisioning and deploying new applications. Weaved observability and load testing solutions into pipelines to increase confidence in code as it is deployed across environments.

- Played a pivotal role in the migration of CI/CD pipelines to the Harness.io platform through the development of reusable Terraform modules to scaffold projects, environments, & services for newly onboarded teams
- Designed & implemented role-based access control (RBAC) for Harness including Azure AD group creation via Terraform
- Contributed to the migration of our source control management solution from Azure DevOps to Github Enterprise including the automation of organization rulesets in Github to enforce best practices for a trunk-based development strategy
- Worked on various efforts around application and CI/CD templating in alignment with the team's prime directive to create a 'one-click to prod' application generation toolset including the creation of Azure Monitor metrics and alerts for newly created services
- Participated in a DevOps support rotation aiding in the resolution of pipeline issues, addressing queries related to observability, and providing support for challenges pertaining to cloud services
- Assisted teams with the creation and rotation of Azure Key Vault secrets
- Supported the rollout of both EKS and AKS Kubernetes clusters by leading the installation and configuration of the Dynatrace operator, Splunk log forwarder, and respective cloud native monitoring solutions (Azure Monitor & CloudWatch)
- Acted as a liaison between development & infrastructure teams to debug a wide variety of issues with the initial rollout of Java Spring Boot & Python FastAPI microservices on our Kubernetes clusters
- Developed a Python FastAPI application which leveraged Boto3 to act as a reverse proxy for application documentation hosted in S3
- Created an Azure DevOps (ADO) CI/CD pipeline to autonomously deploy a React Native app to the Google Play Store and the Apple App Store (TestFlight) in collaboration with the GIS team
- Developed & maintained numerous ADO pipelines utilizing both YAML and the classic editor
- Led the deployment & configuration of new SaaS Dynatrace environments including the deployment of configurations using Terraform and Cookiecutter to give teams a consistent day 1 observability experience when standing up new applications
- Automated the creation & population of team specific management zones in Dynatrace and alerting profiles integrated with ServiceNow

Role Specific Skills: Terraform, AWS, Python, Lambda, MSK, Harness.io, Azure DevOps, Dynatrace, Splunk, Git, Kubernetes, Docker, Cloudwatch, Azure, Linux, React, IaC

Application Engineer: Observability *November 2017 – March 2021*

Member of the centralized systems team acting as a liaison between developers and architects to provide frontline support for application issues across all environments. Worked to continuously improve the observability toolset available to developers and quality engineers. Championed k6 for load testing applications in the organization and developed a suite of tools to increase adoption among developers.

- Assumed primary responsibility for investigating production issues by leveraging Dynatrace and Splunk, ensuring prompt and effective incident resolution
- Designed and implemented an 'environment status' application written in Angular & Java Spring Boot for real-time visualization of over 40 Microservices spanning 5 environments
- Responsible for the deployment and upkeep of our on-premise Dynatrace managed infrastructure
- Performed Splunk maintenance tasks including the configuration of regex rules for log parsing, tagging, & log forwarder troubleshooting
- Created and maintained Splunk reports to illustrate user behavior metrics for stakeholders
- Wrote Splunk alerts to proactively detect critical system events
- Hosted learning sessions with development teams to foster observability tool skill enhancement and knowledge sharing
- Spearheaded the adoption of k6 as Crown's next generation load & performance testing tool
- Developed CLI tooling that generates turnkey k6 tests from an application's Swagger (Open API) definition
- Modernized load test execution procedures by developing a docker based execution model driven by an ADO release pipeline

Role Specific Skills: Dynatrace, Splunk, Python, k6, Kubernetes, Jenkins, Rancher, Angular, Java Spring Boot

Quality Assurance Automation and Performance Engineer *April 2016 - November 2017*

- Script, maintain, and execute all performance tests for Crown Castle's application development group
- Analyze performance test data in Dynatrace and provide actionable insights to development teams
- Use Splunk to gather user metrics, monitor long term trends, and predict future growth

PNC Financial Services Group, Inc.

Quality Assurance Automation and Performance Engineer *May 2012 – April 2016*

- Led automation and performance testing for Pinacle Online Banking product, utilizing HP LoadRunner for scripting and running performance tests with high virtual user load
- Managed team of 4 full-time employees and 8 contractors, assigning tasks and ensuring quality deliverables
- Utilized Dynatrace to analyze customer usage patterns and replicate peak traffic conditions, contributing to effective performance testing

Education

University of Pittsburgh, School of Information Science

Bachelor of Science in Information Science *April 2012*