Graham North BSc, BEng

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Professional Summary

Seasoned Cloud Architect and Platform Engineer with over 10 years of experience in designing, implementing, and optimizing AI/ML-enhanced cloud infrastructures for diverse industries. Highly skilled in leveraging AWS, GCP, and Azure to develop scalable, secure, and high-performance solutions, with expertise in integrating machine learning models using SageMaker, Vertex AI, and TensorFlow. Demonstrates strong leadership and collaboration skills, working with cross-functional teams to deliver data-driven and AI-powered solutions that align with complex business needs. Passionate about enhancing operational agility and efficiency through DevOps, Infrastructure as Code, and advanced CI/CD practices.

Core Competencies

- **Cloud Architecture & Design:** Expert in designing AWS, GCP, and Azure environments with a focus on security, scalability, AI/ML integration, and cost optimization.
- **AI/ML Integration:** Skilled in deploying ML solutions with SageMaker, Vertex AI, and TensorFlow. Experience in ML pipelines, real-time inference, and predictive analytics.
- **Infrastructure as Code (IaC):** Proficient with Terraform, CloudFormation, and Ansible for automated, consistent cloud resource management.
- **DevOps & CI/CD:** Experienced in building CI/CD pipelines using Jenkins, GitLab, and CodePipeline. Proficient with Docker for smooth software delivery.
- **Security & Compliance:** In-depth knowledge of IAM, encryption, GDPR, ISO 27001, SOC 2. Skilled in security monitoring with Prometheus, Grafana, and ELK.
- **Data Management:** Proficient in BigQuery, Redshift, PostgreSQL. Skilled in ETL, data pipelines, and analytics to support ML deployments.
- **Stakeholder Engagement:** Effective in aligning technical solutions with business goals. Strong in Agile and Scrum, with experience leading teams and driving improvements.

Technical Expertise

- **Cloud Platforms:** AWS (EC2, S3, Lambda, SageMaker, VPC, RDS), GCP (Compute Engine, Kubernetes Engine, Vertex AI, Cloud Functions, BigQuery), Azure (VMs, Azure DevOps, AKS)
- **AI/ML Technologies:** Amazon SageMaker, Vertex AI, TensorFlow, PyTorch, Scikit-Learn, ML Pipelines, Predictive Analytics, Data Preprocessing, Model Deployment, Real-Time Inference
- **Containerization & Orchestration:** Docker, Kubernetes, Helm, OpenShift
- **Programming & Scripting Languages:** Python, Java, Node.js, Bash, Go
- **Database Management & Data Analytics:** BigQuery, PostgreSQL, MySQL, MongoDB, Amazon Redshift
- **Monitoring, Logging & Observability:** Prometheus, Grafana, CloudWatch, ELK Stack, Datadog, New Relic
- **Version Control & Collaboration Tools:** Git, GitHub, GitLab, Bitbucket, Jira, Confluence, Slack

Professional Experience

DevSecOps AI/ML Engineer | JP Morgan Chase | 07/2024 - current

- Developed and maintained Rego policies to enforce security controls and compliance within GCP infrastructure and AI/ML applications, ensuring robust data protection across environments.
- Collaborated with development and operations teams to automate security checks and scans within a GCP-focused CI/CD pipeline, integrating machine learning workflows seamlessly and securely.
- Architected secure microservices and containerized applications for AI/ML solutions, applying GCP best practices to ensure compliance and safeguard data.
- Implemented Infrastructure as Code (IaC) using Terraform to define and manage GCP resources efficiently, optimizing for security and scalability within AI/ML environments.
- Conducted security assessments and threat modeling on AI/ML GCP deployments, utilizing GCP security tools to proactively identify and mitigate vulnerabilities.
- Responded to AI/ML-related security incidents, performed root cause analysis, and collaborated with cross-functional teams to implement corrective measures, reinforcing security across AI/ML pipelines.

SC Cleared Platform AI/ML Engineer | MBDA | 12/2023 - 07/2024

- **Key Skills:** AWS, Terraform, Infrastructure as Code, CI/CD, Jenkins, Serverless Architecture, Cloud Security, AI/ML, Amazon SageMaker, Machine Learning Pipelines, Predictive Analytics, Data Ingestion and Preprocessing, Model Training and Deployment, Real-Time Inference, Data-Driven Decision Making
- Transformed a client's AWS infrastructure by designing and implementing a robust VPC architecture to enhance network security and isolation, with detailed configurations for subnets, security groups, and NAT gateways.
- Led the automation of cloud infrastructure using Terraform, significantly improving deployment efficiency and ensuring consistent, scalable, and repeatable infrastructure builds.
- Integrated serverless technologies such as AWS Lambda and API Gateway, enabling the development of scalable, event-driven applications that dynamically adapted to workload changes, optimizing both cost and performance.
- Implemented AI/ML solutions in collaboration with data scientists using Amazon SageMaker, facilitating the development and deployment of machine learning models for predictive analytics. Created end-to-end ML pipelines, from data ingestion and preprocessing to model training and real-time inference, which enabled the client to gain actionable insights and automate decision-making processes.
- Enhanced the CI/CD pipeline by integrating Jenkins with AWS CodePipeline and CodeBuild, streamlining deployment processes, reducing release cycle times, and improving application reliability. Introduced automated testing and monitoring for high availability and rapid issue resolution.

SC Cleared DevOps Engineer | HMRC | 02/2023 - 08/2023

- **Key Skills:** AWS, Azure, Docker, Kubernetes, CI/CD, Jenkins, Terraform, Microservices
- Provided critical support to developers by maintaining and enhancing the platform's infrastructure, ensuring compliance with stringent security protocols through regular audits and SC clearance maintenance.
- Architected and implemented microservices-based solutions, leveraging Docker and Kubernetes to achieve modular and scalable application designs that improved the platform's resilience and flexibility.
- Managed the implementation of CI/CD pipelines using Jenkins, which automated the testing and deployment processes, leading to faster development cycles and improved code quality.

- Collaborated closely with cross-functional teams in an Agile environment, using tools such as Jira and Confluence for project management and documentation, which facilitated transparent communication and effective team collaboration.

Cloud Technical Architect/Engineer | DWP | 06/2022 - 02/2023

- **Key Skills:** AWS, Terraform, Docker, Microservices, Python, Java, CI/CD, Agile
- Led the design and deployment of a new AWS environment tailored to support a secure data upload service, incorporating advanced post-processing capabilities to handle sensitive government data.
- Conducted comprehensive analyses of existing on-premises infrastructure, translating client requirements into detailed High-Level and Low-Level Design documents that guided the implementation of the cloud environment.
- Deployed and managed microservices using AWS EC2, Lambda, EKS, and Fargate, ensuring seamless integration with existing systems and providing scalable solutions to meet evolving business needs.
- Played a pivotal role in optimizing CI/CD processes, which included scripting in Python and Java, to enhance automation and reduce deployment times, ultimately contributing to the successful delivery of the project.

Cloud Architect/Engineer | AccessPay | 01/2022 - 06/2022

- **Key Skills:** GCP, Azure, Azure DevOps, Terraform, Scripting, Python, OKR, Microservices
- Led a critical migration project that transitioned AccessPay's infrastructure from a physical data center to cloud environments on GCP and Azure, ensuring business continuity and enhancing the scalability of financial transaction processing.
- Collaborated with clients to gather and document business requirements, creating detailed High-Level and Low-Level Design documents that served as blueprints for the cloud migration strategy.
- Implemented robust monitoring solutions using Dynatrace and Azure Application Insights, providing real-time insights into application performance and enabling proactive issue resolution.
- Developed and maintained pipelines for automated server deployment and backup processes, ensuring data integrity and security while optimizing resource usage and operational efficiency.

Education

- **Bachelor of Science in Computer Science** | Lancaster University | 09/1995 - 06/1998
  - Specialized in GUI Design, Natural Language Processing, Telecommunications, and Software Engineering.
  - Developed strong technical skills in C, C++, Visual C++, MFC, and ActiveX, with hands-on experience in designing and building embedded systems and device drivers.
- **Bachelor of Engineering in Mechanical/Electronic Engineering** | University of Central Lancashire | 09/1992 - 06/1994
  - Focused on the design and integration of electro-mechanical systems, embedded systems, and power electronics.
  - Gained practical experience in robotics and autonomous vehicle control systems, as well as energy management and control technologies.

Additional Information

- **Nationality:** English
- **Languages:** Fluent in English, with basic proficiency in French and German.
- **Interests:** Deeply interested in technology innovation, particularly in cloud computing, music, cycling, skydiving, weight training, and automotive mechanics.

Passionate about mentoring and developing the next generation of IT professionals through training initiatives in underprivileged regions.