KUMAR DAHAL

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CAREER SUMMARY

AI/ML/Ops / Multi-Cloud Solution / DevOps Automation/ Cybersecurity Architect

Highly motivated, results-oriented, and innovative with complex problem-solver with analytical and driven mindset. Dedicated to achieving demanding development objectives according to tight schedules while producing impeccable code. *Experience in AI/ML/MLOps / Multi-Cloud Solution / DevOps Automation/ Cybersecurity Architect with 20 years* of successful versatile hands-on enterprise experiences in software architecture. *Recognized consistently for performance excellence* and contributions to success in multinational business demands. *Experience* in researching, architecting end-to-end systems, multi-cloud *data migration,* data *governance and analytics, enforcing cyber security* and protocols. *Galvanized and trained engineers and developers* on challenges that involves in adopting cloud native or cloud distributed system architecture. *Shrewd communicator and negotiator,* with proven ability to gain cooperation and build consensus among diverse groups with conflicting business objectives to successfully achieve win/win outcomes. Strong experience architecting building and managing large, highly available enterprise public or private clouds.

✦ *Architect, designed, deployed, automation and managed AWS/GCP/AZURE* cloud-based production system, to ensure the availability, performance, scalability, and security of production systems.\

✦ *Research, Architect, Designed, developed, and maintained* metadata driven data pipeline automation framework(s) for batch, event, and streaming data in cloud native environment

✦ *Leverage open-source tools for cloud-native* application delivered and built entire network system infrastructure for seamless deployment, execution, and validation.

✦ *Implemented multi-cloud architect to automate and orchestra various applications* along with the cloud computing reference model, and cloud governance life cycle for building cloudOps frameworks.

✦ *Migrated entire data from monolith to stable microservices architecture* with robust, scalable and containerization deployment and orchestration.

✦ *Utilized some of the tools and platform provided by Cloud Native Computing Foundation (CNCF)* for management and orchestration, networking and runtime, application observability, and analysis and security.

✦ *Developed and maintained information security program strategic* and tactical goals and objectives and program outreach/communication plans.

✦ *Displays strong thought leadership* in pursuit of modern architecture principals and technology modernization

✦ *Build end to end data pipelines from source* to target ensuring data quality, consistency and observability using MLOps and DevOps principles

✦ *Experience working/collaborating* with Master Data Management, Metadata Management and Data Governance

✦ *Displays strong thought leadership* in pursuit of modern architecture principals and technology modernization

TECHNICAL EXPERTISE & CERTIFICATES

Skillsoft Learning: Certificates

LinkedIn Learning:Certificates

Certificates: AI Apprentice, AI Developer, AI Practitioner, AI Architect

Certificates: <u>ML Programmer, DL Programmer, ML Engineer, ML Architect</u>
Certificates: <u>DevOps Engineer, Cloud Engineer, CloudOps Engineer, Muti-Cloud Architect</u>
Cyber Security: <u>CCSP, CISSP, SY0-601: CompTIA Security+, DevSecOps, HashiCorp Vault.</u>
Opensource: Git, Jenkins, Docker Architecture, Kubernetes Architecture, HashiCorp Tools, Angular, Elastic Stack, SoarQube, Node.js, React, .Net Core, Ansible, Puppet, Chef, Red Hate, Nagios, Selenium, Google Cola, Jupiter notebook, Spider.
Methodology: Agile, Kanban, Scrum, SAFe Team, SAFe DevOps,
Language: <u>HTML, JSON, XML, CSS, JavaScript, PHP, JAVA, C++ and Python</u>.
AWS: AWS DevOps Engineer (Professional) Certification, Master the AWS Well-Architected.
GCP: Google Cloud Architect - Cloud Design, Network Components, Web Applications & Name Resolution.
AZURE: Azure Architect Technologies Certification, Deploy and Manage Virtual Machines, Deploy and Manage Virtual Machines, Configure and Manage Virtual Networks, Manage Identities.
Network Infrastructure: NFV, SDN, SD-WAN, DPDK, MPLS, VOIP, TCP/IP, DNS, DHCP, VPN, IAS, DOCSIS. Network Architecture and design: Active Directory, Group policy, Terminal Services, Routing and Remote Access, wiring and cable terminations, Hardware based CPE (Intel and ARM).

PROFESSIONAL EXPERIENCE

ASRC Federal, Fort Collins, CO   **April-2021 – Present**
Delivers successful mission and elevates performance for federal civilian, defense, and intelligence agencies.
AI/ML/Ops/ DevOps Automation Architect

Built an MLOps pipeline to support development, experimentation, continuous integration, continuous delivery, verification/validation, and monitoring of AI/ML models. Solve real world problems relevant to the Intel Community (IC) and Department of Defense (DoD) using a combination of FOSS/GOTS/COTS software and hardware. Contributed to all aspects of project software development lifecycle from research, prototyping solutions to assess feasibility, integration with external software systems, development, and product deployment. Architect designed sustainable CI/CD automation for build, test, and deployment of enterprise web applications. Supported, collaborated, and help others to understand the CI/CD automation functions, pipeline, and the principal practices. Lead in the designed, deployment, and operations of Cloud Platforms – including AWS/GCP and Azure. Monitored of service health, management of service requests, and change management within the infrastructure. Research and implement new Cloud tools to improve efficiency, performance, and cost-effectiveness limit downtime in all environments.

- *Architect* automation deployments with AWS/Azure/GCP
- *Created architecture and strategic* blueprints and ensured the development teams comply planning, designing, and executing complex company level solution configuration.
- *Deployed and managed applications* running on a mix of Kubernetes, in multi-Cloud and introduced optimizations; resulted in a $15k savings per month.
- *Defined and documented cloud solution architecture*(s) including technical designs and diagrams implementation cloud infrastructure solutions for distributed systems and application.
- *Pre-planned cloud migration and cloud-native solutions*. Automated complex operational tasks using common scripting and specific tools utilities.
- *Analyzed, reversed, and finalized* the specifications for tools installation, build, and deployment automation for 40+ services
- *Transformed market data* into actionable strategies for continual process change; resulting in an efficiency increase of 65%
- *Architect docker containers and Kubernetes* built microservices architect for reliability and resilience.
- *Encoded a categorical integer* filed to a from suitable for ML algorithms

- *Identified method of viewing correlations* in a dataset using Pandas and Seaborn
- *Enumerated risks in feature selection* for simple and multiple regression
- *Enumerated ways to evaluate a linear regression* model in Sciket Learn after it has been trained.
- *Analyzed data streams* from different platforms and restored their integrity with algorithmic constraints.
- *Developed a reinforcement learning algorithm* for optimal advertising strategies on FB (TensorFlow).
- *Developed NLP algorithms to clean,* transform, and integrate data streams from different sources.

Hotel Engine, Denver, CO   **Dec-2018 – Mar-2020**
Provides hotel-booking platform for enterprise clientele designed for business travel.

Multi-Cloud Architect – Enterprise

Responsible for maximizing the value through developing, automating, and optimizing mission critical deployments in AWS, Azure and GCP, leveraging configuration management, CI/CD, and DevOps processes. Created and maintain fully automated CI/CD pipelines for code deployment using Tomcat Server and PowerShell. Actively manage, improve, and monitor cloud infrastructure on AWS, EC2, S3, and RDS, including backups, patches, and scaling. Built and deployed Docker and Kubernetes containerization to break up monolithic app into microservices, improving developer workflow, increasing scalability, and optimizing speed. Implemented Kubernetes cluster AWS (EKS) to manage and orchestrated containers for scalability.

- *Automated finance system cut business costs by 35%,* increased productivity rates by 85%, and eliminated billing error 95%.
- *Provide oversight to data architecture* solution implementation, with ability to guide a team of data engineers on projects and groom resources.
- *Developed and deployed hotel reservation* platform, API integration, and UX/UI design for enterprise.
- *Effectively negotiated sprint goal with the team by slashing 20% of the time* in a single quarter and was able to coordinate 95% of products roadmap completion.
- *Utilized Python* for inspecting, cleansing, transforming, and modeling data.
- *Developed new API* integration application with JSON for communicating with centralized hotel API.
- *Utilized inventory management tool* such as Ansible and NetBox for provisioning, configuration management and application deployment.
- *Implemented testing environment for Kubernetes* and administrated the Kubernetes Clusters. Migrated on-site solutions to cloud-based offerings, such as Amazon's AWS.
- *Responsible to setup the execution of automated tests and development process* using version control System Git and to development Continuous Integration (CI) tools with Jenkins.
- *Utilized (IAST) solution to identify and manage security risks* associated with vulnerabilities in running web applications using dynamic testing techniques.
- *Provided leadership in the DevSecOps areas of Vulnerability Scanning,* Certificate Management, Password Policy Management, Data Analysis of security monitoring outputs, coordination of Remediation Patching, and other daily Security and Compliance efforts.

Chetu Inc., Plantation, FL   **Jan -2017 – Nov-2018**
Software Development Company provides tailored software solutions from industry specialized developers.

DevOps/Clouds Architect

Collaborated with developers, product managers/owners, end-users, operational leadership, and subject matter experts to understand current and future goals/requirements defining the devops/cloud architecture framework, standards, and best practices, principles, and patterns. Identified, designed, and executed product initiative plans to meet customer/user needs: product vision, roadmap, and requirements documentation. Lead development

team to create goals and implementation strategies, which support vision and the mission. Owned measure and demonstrate progress towards goals with metrics created and tracked in partnership with leadership and analytics

- *Participates as an evaluator and negotiator* for procurements related to data and analytics activities, led the charges of periodic architecture related capability assessments, and provide reports and recommendations to leadership to continuously advance our architecture.
- *Restructured over budgeted and error-plagued vehicle tracking and parking project* into a new innovative solution delivering on time and within the budget, estimated over-headed cost was $2.9M, cut-down to $1M at the completion receiving "Excellent Award" from the CEO.
- *Devised, developed, and delivered vehicle tracking and agriculture GIS custom software* application for enterprise clientele.
- *Pioneered GIS in the agriculture* sector by designing interactive mapping system using custom GIS application to integrate into drone and unmanned aerial vehicles (UVA).
- *Utilized SAFe scale framework environment* and version control system reducing development time and increasing the rate of successful deployments.
- *Utilized Mongo DB* NoSQL database to create, read, update and delete documents data.
- *Automated the deployment of 90+ cloud servers* using Docker, Kubernetes, and Aws with the help of python
- *Simplified infrastructure automation by utilizing tools like Vagrant, Terraform, Packer, and Vault,* you can manage virtual machines, define declarative infrastructure as code, automate machine images, and manage secrets across your infrastructure.

Electronics Row, Wheat ridge, CO   **Dec-2011 – Dec-2016**
Consumer electronics products manufacturer and corporate incentive program for corporation industry.

DevOps Automation Architect

Designed and architect on one or many cloud computing providers (e.g. GCP, AWS, Azure) of modern data movement technologies (e.g. serverless, real-time, as needed computing, low latency data movement, high volume data management. Lead the implementation of DevOps processes to deliver code quickly with a high degree of confidence and quality. Lead and supported the Product Owners Community of Practice by facilitating collaboration of cross organizational teams to establish, develop and roll out new and enhanced capabilities. Recognized as the "go to" leader and trusted advisor for product set. Work collaboratively with the team of Product Owners. Communicate value and status to various stakeholders and levels of management.

- *Lead the design and architecture* of Data Engineering technical solutions in an agile and incremental manner.
- *Developed of the Data Platform* consisting of the data lake, analytics environment, enterprise data warehouse, and visualization tools. Identified and translated Big Data challenges into technical approaches yielding actionable recommendations across multiple, diverse domains.
- *Conceptualized, built/developed e-commerce/business platform* for incentive programs launched, marketed, and maintained enhanced product features annual $8.6 million in revenue.
- *Responsible for product enhancement, market campaign, market research* and maintained solid proprietary responsible for increasing subscription, for incentive program throughout USA and Canada.
- *Led continuous improvement efforts* to develop interfaces in support of multiple databases, systems, and technologies including VMware, AWS and MS SQL.
- *Managed Docker orchestration* and Docker containerization using Kubernetes.
- *Utilized Gherkin Language* to develop Behavior Driven Testing.

Integra Telecom, Denver, CO   **Dec-2009 – Nov-2011**
Telecommunication infrastructure and Service Company

Cloud Cybersecurity Engineer

Lead cybersecurity efforts across multiple cloud environments and ensuring secure configuration. Implemented traditional security protection equivalent on cloud-based platforms and applications including container architectures in a DoD environment. Leverage experience with multi-cloud migrations and container architectures (Kubernetes) to apply cybersecurity solutions, establish best practices and develop Standard Operating Procedures (SOPs).

- *Assisted cybersecurity operations, solution engineers*, developers, and other team members to adopt cloud and container technologies.
- *Supported the program manager in cybersecurity efforts* and aid in effective decision making.
- *Reviewed architectures* to ensure security compliance researched, suggested, and help implement industry best practices and tool sets.
- *Coordinate and assist with cybersecurity reviews*, including generation of security artifacts, implementation statements, standard operating procedures.

MasTec Technology, Centennial, CO   **Dec-2006 – Nov-2009**

Infrastructure engineering and Construction Company

Network Security Engineer

Responsible for the acceptance and delivery of all projects and tasks related to network systems integration, voice systems integration, cybersecurity, and implementation and testing in remote locations. Actively execute project plans for current initiatives including server builds and installation, router and VPN configurations and installation, and security maintenance.

- *Managed and remediation* of network infrastructure, data center, and cybersecurity risks and vulnerabilities identified in the environment.
- *Interacted with enterprise stakeholders* (i.e. IT Security, GRC, IA, Legal, HR, etc.) as required to help prioritize and remediate network infrastructure and cyber risks and assess compliance status.
- *Provide tactical recommendations on improving network*, infrastructure and cybersecurity processes and practices to expedite risk remediation efforts.
- *Familiarity with network, infrastructure*, and cyber tools (i.e. Cisco, Mimecast, Trend, Solar Winds, Kali Linux, Venafi, Qualys, and/or other tools) to identify, exploit and remediate observed vulnerabilities.

Long Building Technologies, Englewood, CO   **Jan-2004 – Nov-2006**

Building integrator provide products and services in building automation and security solutions.

Network Administrator

Designed and constructed local area network and wide-area network connecting seven location offices to corporate headquarters. Oversaw setup of servers and desktop workstations. Recruited and trained network and desktop support technicians. Prepared budgets and managed expenses. Configured routers, firewalls, domain name services, e-mail, Web, and ftp services.

- *Designed new systems application* that provided Web-based monitoring of all telecommunications.
- *Established technical infrastructure requirements*, including voice communications, voice over IP, hardware/software applications, PBX, CMS, server applications, SQL database and Meeting Place.
- *Analyzed costs resulting in reduction* of $5M in redundant technology-related expenses.
- *Identified significant drain on corporate budget*, reduced expenses by 50% within 90 days.

EDUCATION

[Skillsoft Learning: Certificates](#)   [LinkedIn Learning:Certificates](#)

Bachelor, **Major Computer Science,** 1996 – Bhaktivedanta Gurukula International, Mathura, UP India

Information Technology, Diploma 1993 – Sri Dham Mayapur School, Nadia, WB India

High School, 1989 – Siddhartha Vanasthali Institute, Kathmandu, Nepal

ARTICLES

(1) [How the cloud data life cycle guides security efforts in the cloud. | LinkedIn](#)
(2) [Cloud Migration Plan: A Comprehensive Guide | LinkedIn](#)
(3) [Exploring the Benefits of Public, Private, Hybrid, Multicloud and Polycloud | LinkedIn](#)
(4) [Neural Networks Overview | LinkedIn](#)
(5) [What is Footprinting & Countermeasures | LinkedIn](#)
(6) [Explainable AI, or (XAI) | LinkedIn](#)
(7) [COMPARING DEEP LEARNING AND MACHINE LEARNING | LinkedIn](#)
(8) [KUBERNETES CLUSTER ARCHITECTURE | LinkedIn](#)