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Portfolio: <https://muskantomar001.github.io/>

MUSKAN TOMAR

Cloud Solutions Architect | DevOps and Security |
Cloud Administrator Associate | Kubernetes & Docker
| IaC

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SUMMARY

Cloud, DevOps and Security Engineer with 5+ years of experience building and operating secure, highly available and resilient distributed systems across Azure. Strong expertise at the intersection of Site Reliability Engineering, Infrastructure Security and Software Development. Microsoft certified, with a proven record of architecting, modernizing, and reducing operational toil through automation, AI and data-driven engineering. Enthusiastic learner, fostering a culture of collaborative Cloud and Security research.

Leading, and fostering a culture of collaborative security and cloud research. Creating and developing the solutions owning reliability, security and scalability while also automating and using AI tools at hand. Looking to work with an organization that provides an opportunity to learn, explore, and grow along with the organization.

EXPERIENCE

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| Service Engineer II | Microsoft, Hyderabad | August 2024 – Present |
| <ul style="list-style-type: none">Operated at the intersection of Site Reliability Engineering, Infrastructure Security and Software Development, owning CI/CD pipeline optimization, automations, modernization, tooling and Cloud network and Infrastructure security as part of Microsoft's Network Defense Engineering team.Worked on the Enterprise scale credential Security hardening initiative "<i>Credential Generation and storage initiative</i>" Remediated a CodeQL cryptocompliance gap by migrating Cisco Type 9 (scrypt) hashing to Cisco Hash8, achieving standards alignment, restoring reliability and stabilizing credential rotation over 1000+ IOS devicesDeveloped, Engineered and trained an organizational level Network port scanning – A Threat detection engine to map attack surfaces, detect management IPs and feed structured telemetry into an AI dashboard for risk, exposure and threat classification. This helped in reducing Security Incidents by 47% which directly enhances the security posture, availability and performance.Led modernization of the network device credential pipelines, migrating legacy monolithic tooling with API-driven microservices, enforcing IaC, and optimizing build reliability and scalability.Re-architected critical dependencies, by eliminating the single-point dependency on encrypted Ansible Vaults for Ansible based over 345+ automations, downstream systems and 500+ Credentials, strengthening system availability, security governance and secret compliance across dependent tooling.Supported Microsoft's Network infrastructure scaling by identifying bottlenecks and architecting durable, scalable solutions.Automated detection and monitoring of Infrastructure exposure and failure signals, improving system observability and reducing mean time to recovery (MTTR).Investigated, triaged and mitigated multiple high-severity vulnerabilities on network devices. Collaborated with RED team to maintain the network security across.Partnered with Microsoft's Security Operations teams on resolving live network security incidents on the CorpNet.Actively part of Azure Champions community – contributing at a large scale to the world wide Azure and Microsoft community.Participated in the Microsoft global hackathon 2025 – created an MVP for "<i>Neural Blackbox Recorder</i>" an AI Security tool which acted as the "flight recorder" for AI agents. Designed to monitor, analyse and secure interactions with LLMs. | | |

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| Cloud Solutions Specialist | Insight, Greater Noida | April 2024- August 2024 |
| <ul style="list-style-type: none">Defined, Architected, drove and deployed scalable hybrid/multi cloud strategies aligned to Well-Architected Framework standards, driving operational excellence, delivering high impact architecture designs.Delivered deep technical analysis and root-cause investigations, accelerating resolution of critical customer issues in Azure environments.Collaborated with developers, security, and data engineering teams to deliver proactive cloud assessments, onboarding guidance, and technical workshops. | | |

- Guided teams and customers through cloud migration and optimization strategies, improving cost-efficiency and service reliability.
- Partnered with cross-discipline engineering teams to streamline release pipelines and reduce deployment risk across Azure environments.

Cloud Engineer III (January 2023- April 2024)

- designed and implemented Azure-based solutions for various projects leveraging a wide array of Azure services.
- Enhanced application reliability and availability by implementing comprehensive logging and monitoring solutions using Data Dog, Grafana, Azure Monitor, Insights, and Log Analytics resulting in reduced downtime by 15%.
- Implemented and provisioned AWS infrastructure. Worked on resolving critical AWS VPC issues, resolving peering problems for a development team.
- Managed over 200+ Kubernetes clusters for various clients, ensuring high Availability and scalability for containerized applications.
- Collaborated with development teams to manage build infrastructure and implement CI/CD pipelines resulting in a 20% reduction in build and deployment times and ensuring efficient development and deployment workflows.
- Received recognition (till date) under the **Value awards category - Hunger** which showcases the zeal to grow and improve.

Sr. Cloud Engineer (July 2022 – December 2022)

- Architecting, Optimizing, Onboarding, and Transitioning Microsoft Azure Services and Systems. Responsible for workload Migrations to Microsoft Azure cloud Infrastructure from On-prem/Other Clouds.
- Delivered and Managed containerized applications using Kubernetes and Docker containerization ensuring portability of applications, and efficient resource utilization. Reconciled data between 10+ microservices.
- Proficient in Azure security, RBAC (Kubernetes), IAM, Network security with hands on experience in implementing Terraform cloud/enterprise (Sentinel policies), Azure firewall (WAF). Security Assessment to find out the vulnerabilities and provide recommendations.
- Received recognition as a star performer, which showcases my **excellent performance**.
- Led knowledge sharing sessions on CI/CD and Kubernetes for 30+ team members to help them take ownership of their workflows.

Cloud Engineer (March 2021 – June 2022)

- Promoted to Sr. cloud engineer, within a span of less than 1.5 years.
- Cloud PaaS +IaaS, Dashboarding, and Alerting. Server traffic management, and Cloud Network hardening.
- Implemented Infrastructure as Code (IAC) using Terraform, resulting in consistent and reproducible cloud environments.
- Cost Optimizations using Python/PowerShell scripting, Automation development on PaaS resources.
- Received star performer recognition 3 times which showcases **excellent performance**.

Deep Learning Researcher, Intern

MixORG Consulting Services Pvt. Ltd.

May 2020 – July 2020

- Worked on various Artificial Intelligence and neural-network technologies.
- Researched more than 15 existing Facial recognition models to create a more optimal model which could be easily leveraged by the public industry.
- Developed a Facial Recognition Model (Industry Project) with higher accuracy.

Software Engineer, Intern

FutureSoft Solutions Pvt. Ltd.

May 2019 – June 2019

- Worked closely with the Network Administrator to understand the Network Infrastructure of the company. Collaborated with associates in both technical and non-technical contexts.
- Collaborated on network development and implementation of routers, switches, firewalls, and NAC and WAN optimization.

EDUCATION

Noida, IN

Amity University, Noida

July 2017 – Jun 2021

- Bachelors in information technology from **Amity School of Engineering & Technology**. Division 1st.
- Member of the **Computer Society of India (CSI)** which organized various conferences, and professional meetups to exchange views, information, and technical ideas.

POSITION OF RESPONSIBILITY

TEAM LEADER- Umeed-A Drop of Hope [NGO]

- Managed a Team of 20+ members and Organized 10+ workshops on various topics.

July 2018 – Dec 2018

- As a Team Leader worked towards managing my team, encouraging more people to join and help for the same, and helped my team in their time at the organization.
- Used different instructional techniques to obtain and retain underprivileged women's and children's interest in the subject matter.

TECHNICAL PROJECTS/Achievements

Projects

- **Facial Recognition Software (Industry Project)**- This project is related to the development of a Facial recognition system using deep learning and neural networks. Worked on improving the accuracy of the model.
- **Mp4 to Mp3 file conversion microservices based application**- This DevOps project revolves around a Python-based microservices application deployed on Azure Kubernetes Service (AKS). The primary objective is to facilitate the conversion of MP4 videos to MP3 audio files seamlessly. https://github.com/Muskantomar001/Python_Microservices_App_on_Azure_Kubernetes_Service_aks.git
- **Automated Deployment to Vercel using CI/CD pipelines** – Developed python script to automate the deployment of application to Vercel using CI/CD pipelines.
https://github.com/Muskantomar001/Devops_Automated_application_deployment_to_Vercel.git
- **Mutli Stack Microservices application deployment on AKS** - This e-commerce application consists of 10 distinct microservices developed in various languages.
https://github.com/Muskantomar001/Multi-stack_microservices_Application_deployment-AKS.git

Publications

- **Comparative Study of Deep Learning Models for COVID-19 Diagnosis | Published in IEEE -2021 2nd International Conference on Secure Cyber Computing and Communications (ICSCCC), 2021, pp. 507-512, doi: 10.1109/ICSCCC51823.2021.9478139. (<https://ieeexplore.ieee.org/document/9478139>)**
- **Image Authentication with Steganography using Digital Watermarking and Digital Signature - Third International Conference on Facets of Business Excellence - FOBE 2018**

Certifications

- AZ-305: Microsoft Azure Solutions Architect Expert
- AZ-400: Designing and Implementing Microsoft DevOps Solutions
- AZ-500: Microsoft Certified: Azure Security Engineer Associate
- AZ-104: Microsoft Certified: Azure Administrator Associate
- AZ-900: Microsoft Certified: Azure Fundamentals
- AWS Certified Cloud Practitioner
- Achieved student-level certification for CCNA Routing and Switching: Introduction to Networks

ADDITIONAL AWARDS & CONFERENCES

- 2nd position in a contest organized by 'GEEK SEEK' ELITE NETWORKING CLUB (Tech quiz)
- Attended a 3-day Foundation workshop on Web Development and Research organized by IEEE.
- Attended a workshop on Introduction to Data Structure & Algorithm organized by IOSD (International Organization of software developers)
- Attended 10th International Conference CONFLUENCE-2020 on Cloud computing, Data Science, and engineering.

TECHNICAL SKILLS

- **Cloud Services:** Azure (Proficient), AWS
- **Frameworks and Tools:** Git, Jenkins, DevOps Pipelines, Ansible, Puppet, Kubernetes, Docker, Maven, Nginx, Visual Studio, Microsoft SQL Server, Eclipse
- **Infrastructure as Code:** Terraform, ARM Templates
- **Scripting:** Bash, PowerShell
- **Operating Systems:** Linux, Windows
- **Languages:** Python, HTML, CSS, PHP

- **Monitoring:** Prometheus, Data Dog, Grafana, Nagios

LANGUAGES

- English
- Hindi
- French