

# Sabin Kumar Shrestha

## DevOps Engineer

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Experienced DevOps Engineer proficient in supporting, automating, and optimizing mission-critical deployments in the cloud. Skilled in configuration management, cloud infrastructure and architecture, cost optimization, and CI/CD workflows. Dedicated to ensuring seamless and efficient software delivery processes. Demonstrated expertise in leveraging cutting-edge technologies to enhance system reliability, scalability, and security. Strong problem-solving abilities with a keen eye for identifying areas for improvement and implementing innovative solutions. Adept at collaborating with cross-functional teams to drive successful project outcomes. Committed to staying updated with industry best practices and emerging trends in DevOps methodologies.

## WORK EXPERIENCE

2022-Present

### DevOps Engineer, Fusemachines

- **Multi-Project Leadership:** Led end-to-end cloud architecture, deployment, and CI/CD automation for projects including Dionysus Digital Health, Upacare Health, Pixii, Squadery, and NYC Campaign Finance Board.
- **Cloud Deployment & Administration:** Managed AWS and Azure infrastructures, leveraging services like EC2, S3, RDS, Lambda, API Gateway, EKS, ECS, CloudFront, Route 53, ACM, Cognito, WAF, VPC/VNet, Microsoft Fabric, ensuring high availability, fault tolerance, and global distribution. Provided instant company-wide AWS/Azure support for troubleshooting and operational continuity.
- **CI/CD & Automation:** Designed and implemented pipelines using AWS CodePipeline, CodeBuild, CodeDeploy, Jenkins, SAM CLI, Azure Pipelines, and Bitbucket Pipelines, supporting mono-repo and multi-repo workflows with automated testing and notifications.
- **Containerization & Orchestration:** Dockerized multiple services and orchestrated deployments using Kubernetes and Docker Compose, ensuring consistency, scalability, and automated rollouts.
- **Serverless & Backend Deployment:** Deployed serverless backends using Lambda, API Gateway, DynamoDB, SQS, SNS, SES, and Cognito; implemented multi-region and multi-environment setups (dev, stage, prod).
- **Frontend & Global Distribution:** Delivered secure, globally distributed frontends with S3, CloudFront, Route 53, ACM, ensuring SSL-enabled, low-latency access.
- **Monitoring & Observability:** Configured Prometheus, Grafana, CloudWatch, and Azure monitoring dashboards, establishing real-time observability, alerting, and anomaly detection.
- **Security & Access Management:** Managed IAM roles, Entra ID, Kubernetes Secrets, environment variables, ensuring secure access and compliance.
- **Infrastructure as Code (IaC):** Automated infrastructure provisioning using Terraform, CloudFormation nested stacks, and ARM templates for reproducibility and maintainability.

	<ul style="list-style-type: none"> <li>● <b>Cost Optimization:</b> Applied resource tagging, auto-scaling, and capacity scheduling to optimize cloud expenditure while maintaining performance.</li> <li>● <b>Mentorship &amp; Team Leadership:</b> Participated in DevOps hiring, mentored junior engineers and interns, and guided teams on best practices, workflow design, and cloud operations.</li> </ul>
2021–2022	<p><b><u>Associate Cloud Engineer, Genese</u></b></p> <ul style="list-style-type: none"> <li>● <b>Cloud Services Management:</b> Extensive experience with AWS, Azure, and GCP, specializing in website hosting, data migration, CI/CD automation, and data security.</li> <li>● <b>Server &amp; Workload Migration:</b> Successfully planned and executed on-premises to cloud migrations, minimizing downtime and ensuring seamless transitions.</li> <li>● <b>Customer Training &amp; Support:</b> Conducted training sessions and workshops on cloud computing and IT products; provided ongoing support for AWS, Azure, and GCP services to ensure smooth operations.</li> <li>● <b>Cloud Cost Optimization:</b> Implemented strategies to optimize cloud spending, improving resource efficiency while maintaining high performance and security.</li> <li>● <b>CI/CD &amp; Automation:</b> Designed and automated CI/CD pipelines and cloud processes, enhancing deployment efficiency, reliability, and operational scalability.</li> <li>● <b>Team &amp; Intern Management:</b> Participated in hiring interviews, onboarding, and mentoring interns, fostering skill development and ensuring effective knowledge transfer within the team.</li> </ul>
2020–Present	<p><b><u>Freelancer</u></b></p> <ul style="list-style-type: none"> <li>● <b>DevOps &amp; Infrastructure Automation:</b> Led deployment and infrastructure automation on AWS, leveraging Infrastructure as Code (IaC) for scalable, reliable, and cost-efficient cloud environments.</li> <li>● <b>Full-Stack Cloud Deployment:</b> Delivered end-to-end deployments using EC2, S3, RDS, Lambda, ensuring production-grade stability and high availability.</li> <li>● <b>Containerization &amp; Orchestration:</b> Dockerized multiple applications and orchestrated deployments with Kubernetes, maintaining environment consistency and enabling automated, scalable rollouts.</li> <li>● <b>CI/CD Pipeline Development:</b> Designed and maintained Bitbucket Pipelines, AWS CodePipeline, and Jenkins pipelines to automate build, test, and deployment workflows.</li> <li>● <b>Database Administration:</b> Managed MongoDB and other databases with automated backups, monitoring, and disaster recovery strategies to ensure data integrity.</li> <li>● <b>Secrets &amp; Access Management:</b> Implemented secure credential handling via Kubernetes Secrets and environment variables with role-based access control.</li> <li>● <b>Monitoring &amp; Alerting:</b> Integrated Prometheus and Grafana for real-time performance monitoring, anomaly detection, and proactive incident response.</li> </ul>

- **Cost Optimization:** Applied cloud cost management best practices, including resource tagging, scheduling, and rightsizing for efficiency.
- **Documentation & Client Training:** Produced detailed technical documentation and led training sessions for seamless handoffs and post-deployment support.
- **Machine Learning Project Support:** Developed and deployed ML projects focused on image classification and computer vision, incorporating advanced algorithms to enhance solutions.

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## PROJECT EXPERIENCE

- **New York City Campaign Finance Board Project, Fusemachines**
  - **Azure Infrastructure & Data Flow:** Managed Azure infrastructure and designed data workflows to enable efficient processing, integration, and transfer across the pipeline.
  - **Collaboration with Data Engineering:** Worked with data engineers to implement data ETL jobs, improving quality and operational efficiency.
  - **CI/CD for Data Operations:** Built CI/CD pipelines to automate database management, testing, and deployment, ensuring continuous integration and delivery.
  - **Microsoft Fabric & Role Management:** Configured Microsoft Fabric, managing roles, permissions, and access for engineers, analysts, and QA specialists to maintain secure, compliant environments.
  - **Monitoring & Visualization:** Implemented Azure monitoring and Fabric Metrics dashboards for real-time insights, anomaly detection, and proactive alerts.
  - **Network & Security Management:** Managed VNet, VMs, and VPNs to securely transfer data and maintain end-to-end security, implemented HA-Proxy.
  - **Infrastructure as Code (IaC):** Automated infrastructure provisioning using ARM templates and Terraform, ensuring scalability and consistency across environments.
  - **Testing Automation:** Automated Pytest and unit tests for Microsoft Fabric notebooks, integrated into Azure Pipelines for continuous testing.
  - **Cost Optimization:** Analyzed workload and capacity requirements, implementing automated scheduling to optimize Fabric resource utilization and minimize costs.
- **Pixii Project, Fusemachines**
  - **Infrastructure Provisioning & Management:** Provisioned and managed project infrastructure using Terraform, ensuring scalability, consistency, and environment parity.
  - **Containerization & Orchestration:** Dockerized microservices and orchestrated deployments with Kubernetes on EC2 instances, enabling seamless management and scalability.
  - **CI/CD Pipeline:** Built and maintained a Jenkins-based CI/CD pipeline, automating build, test, and deployment processes for continuous integration and delivery.
  - **Service Deployment:** Deployed Frontend (FE), Backend (BE), and Machine Learning (ML) services on separate EC2 instances with MongoDB, ensuring clear separation of concerns and optimized performance.
  - **Automation & Reliability:** Automated all stages of the development lifecycle to enhance efficiency, reliability, and delivery consistency.

- **Squadery Project, Fusemachines**

- **Flutter App Deployment & CI/CD:** Led deployment of the Flutter mobile app and configured Jenkins CI/CD pipelines across multiple environments, streamlining development and release processes.
- **Infrastructure Management:** Managed project infrastructure using Terraform, ensuring scalability, consistency, and efficient resource utilization.
- **Web Application Hosting:** Hosted the web application on S3, with CloudFront for content delivery, ACM for SSL, and Route 53 for DNS management, ensuring high availability and performance.

- **Dionysus Digital Health Project, Fusemachines**

- **AWS Infrastructure & Access Management:** Managed AWS environments with role-based access control for Backend (BE), Frontend (FE), QA, and other personas, ensuring secure and compliant access.
- **Solution & Workflow Architecture:** Designed and implemented workflow architecture, integrating various components for seamless project execution.
- **Backend & Frontend Deployment:** Deployed services using API Gateway, Lambda, SES, SNS, SQS, VPC, Cognito, Route 53, S3, CloudFront, WAF, ACM, CloudWatch, EventBridge, and Step Functions.
- **CI/CD Implementation:** Built comprehensive CI/CD pipelines with AWS CodePipeline, CodeBuild, and SAM CLI, supporting mono-repo and multi-repo deployments, with automated notifications via Lambda and SNS.
- **Infrastructure as Code (IaC):** Deployed the project using CloudFormation nested stacks, ensuring modularity, scalability, and maintainability.
- **Multi-Environment & Multi-Region Setup:** Configured dev, stage, and prod environments across multiple AWS regions for high availability, fault tolerance, and compliance.
- **Cost Optimization:** Analyzed usage and billing, optimizing AWS resource selection and ongoing costs for efficient cloud operations.

- **Upacare Health Project, Fusemachines**

- **Backend Deployment & Automation:** Automated deployment of backend services using AWS CodePipeline, CodeBuild, CodeDeploy, Elastic Beanstalk, and CloudFormation, ensuring consistent and reliable releases.
- **Frontend Deployment & Distribution:** Deployed frontend on S3 with CloudFront, using ACM for SSL and Route 53 for DNS management, integrated with CI/CD pipelines for automated builds and deployments.
- **Developer & Environment Support:** Managed server infrastructure, environment setup, and resource allocation to support development teams across dev, staging, and prod environments.
- **Security & Reliability:** Secured environment variables, keys, and policies; maintained high system reliability and compliance standards.
- **Cost Optimization:** Implemented auto-scaling, resource scheduling, and server optimization to minimize costs while ensuring high availability.

- **Cross River Bank Project, Genese**
  - **AWS Automation & Deployment Support:** Provided automation and deployment services, collaborating with Data Engineering teams to design and optimize CI/CD pipelines using AWS CodePipeline and CloudFormation.
  - **Cost Optimization:** Implemented strategies to improve cloud efficiency, reduce resource waste, and minimize operational expenses.
- **Dr. Sathi Project, Freelance**
  - **Backend Deployment:** Built and deployed Node.js backend on AWS Elastic Beanstalk with Docker containerization for environment consistency.
  - **Frontend Deployment:** Developed React.js/Next.js frontend, hosted on S3 with CloudFront, ACM SSL, and Route 53 DNS management.
  - **CI/CD Automation:** Established end-to-end pipelines using AWS CodePipeline, CodeBuild, and CodeDeploy for both frontend and backend.
  - **Multi-Region & Multi-Environment Deployment:** Deployed across multiple AWS regions and environments (dev, prod) for high availability, scalability, and optimal performance.
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- **Hibeena Project, Freelance**
  - **Azure Infrastructure & Containerization:** Designed and deployed the Beena Platform on Microsoft Azure; Dockerized microservices and orchestrated deployments with Kubernetes for scalable and consistent service management.
  - **CI/CD Automation:** Implemented Bitbucket Pipelines for frontend and backend, covering build, test, and deployment stages.
  - **Database & Secrets Management:** Deployed MongoDB in Docker containers with automated daily backups; managed secrets via Bitbucket environment variables and Kubernetes Secrets.
  - **Monitoring & Cost Optimization:** Configured Prometheus–Grafana dashboards for real-time monitoring; implemented resource tagging and scheduling to reduce non-production costs.
  - **Documentation & Handoff:** Delivered detailed DevOps documentation and architecture training for smooth post-deployment maintenance.

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## **SKILLS**

- **Cloud Platforms:** AWS, Microsoft Azure, GCP
- **Infrastructure as Code:** Terraform, CloudFormation, ARM Templates, Bicep
- **CI/CD & Automation:** AWS Codepipeline, GitHub Actions, Jenkins, Bitbucket Pipelines, Azure DevOps, GitLab CI, FluxCD, ArgoCD
- **Containers & Orchestration:** Docker, Kubernetes, EKS, ECS, ECR, ACR, AKS
- **Monitoring & Logging:** Prometheus, Grafana, CloudWatch, Azure Monitor
- **Programming & Scripting:** Python, Bash, PowerShell
- **Operating Systems:** Linux (Ubuntu, Amazon Linux, Centos), Windows
- **Version Control:** Git, Bitbucket
- **Core AWS Services:** EC2, Lambda, VPC, S3, RDS, IAM, CloudFront, Route53, CloudTrail, SNS, SQS, SES API Gateways
- **Core Azure Services:** Virtual Machines, Azure Functions, VNet, Azure AD (Entra ID), Data Factory, Microsoft Fabric, API Management

- **Security & Compliance:** IAM, Secrets Manager, Azure Key Vault, ACM, WAF
  - **Additional Expertise:** Cloud cost optimization, Serverless architectures, Machine learning support
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## **CERTIFICATIONS**

- [AWS Certified Solutions Architect - Associate](#)
  - [Microsoft Certified: Azure Administrator Associate](#)
  - [Artificial Intelligence with Advanced Python](#)
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## **EDUCATION**

**Khwopa Engineering College, Purbanchal University, Nepal**  
Bachelor's in Computer Engineering (2016 – 2020)