

# VENKATA SAI SWAROOP KAKURU

Cloud Engineer

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## EDUCATION

### Master of Science in Computer Science

Southern Illinois University | January 2023 | May 2024

### Bachelor of Technology in Computer Science & Engineering

Prist University | June 2017 | September 2021

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## SKILLS

- **Cloud Platforms:** AWS (EC2, S3, Lambda, RDS, Route53), Microsoft Azure (Azure DevOps, Azure AD, Logic Apps)
  - **Infrastructure as Code (IaC):** Terraform, ARM Templates, CloudFormation
  - **Containerization & Orchestration:** Kubernetes, Docker, Istio, ArgoCD
  - **Programming Languages:** Python, C#, JavaScript
  - **DevOps Tools:** Jenkins, Git, GitHub, Azure DevOps, Ansible
  - **Databases:** MongoDB, SQL Server, Oracle, Snowflake
  - **Monitoring & Logging:** Splunk, Nagios, Datadog
  - **CI/CD & Automation:** Jenkins Pipelines, YAML Scripts, PowerShell
  - **Operating Systems:** Windows, Linux, Mac OS X
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## PROFESSIONAL EXPERIENCE

### Azure Cloud Engineer

*Southern Illinois University, Carbondale, IL | May 2023 – September 2023*

- Led Kubernetes-based Istio service mesh deployment, reducing network latency by 40% and boosting application performance by 20%.
- Upgraded Kubernetes clusters from 1.18 to 1.26 with KubeSpray and AWS, automating configurations via YAML pipelines.
- Supported cluster upgrades, resolving issues and documenting challenges for knowledge-sharing.
- Enhanced system reliability by upgrading Vault agent sidecars and Istio, troubleshooting Twistlock defender logs.
- Orchestrated Docker containerization, scaling, and monitoring using Kubernetes and ArgoCD for CI/CD workflows.
- Designed Azure ARM templates for auto-scaling, enabling successful deployment of web apps and databases.
- Refactored AngularJS apps to TypeScript and built RESTful APIs for efficient communication.
- Developed C#.NET business logic interfaces and ASP.NET web forms to improve enterprise workflows and user experience.
- Created XML web services in C#, ASP.NET, and ADO.NET for seamless integration across business systems

### Graduate Research & Teaching Assistant

*Southern Illinois University, Carbondale, IL | January 2023 – May 2024*

- Assisted students with setting up software and troubleshooting technical issues, ensuring seamless access to cloud-based and local systems.
- Conducted research on cloud computing tools, including TensorFlow and Torch, applying insights to develop hands-on learning materials for system optimization.
- Developed and delivered practical lab sessions on implementing Infrastructure as Code (IaC) using Terraform, achieving efficient automation and deployment processes.
- Guided peers on a project to optimize system performance in cloud environments using AWS services like EC2, Lambda, and CloudTrail.
- Led interactive sessions on image classification using Convolutional Neural Networks (CNNs) integrated with AWS AI/ML services, improving model accuracy by up to 70%.

- Conducted workshops on sentiment analysis, demonstrating the use of Amazon Comprehend for text categorization, achieving classification accuracy rates of up to 89%.
- Supervised and mentored capstone projects, including architecture design and system modeling for cloud-native applications using AWS solutions.

### **Junior Cloud Engineer**

*CTSI Global, Chennai, India | September 2021 – December 2022*

- Developed and managed AWS S3 bucket replication modules, Terraform resources, and cross-team Kubernetes troubleshooting for streamlined cloud operations.
- Implemented containerized ML pipelines on Kubernetes with Vault and Istio, ensuring secure and efficient deployments.
- Automated RHEL provisioning, updates, and configuration management using Red Hat Satellite, maintaining system compliance.
- Built Slack bots with Red Hat Identity Management for secure API interactions and streamlined user-application communication.
- Configured AppDynamics dashboards, Terraform workflows, and YAML scripts for proactive system monitoring and automation.
- Integrated JIRA, Confluence, and Jenkins for seamless defect tracking, documentation, and CI/CD processes.
- Deployed and monitored EC2 Linux instances using Nagios and Ansible, enhancing operational visibility.
- Installed and managed Splunk Enterprise for log analysis and actionable insights with SPL queries.
- Created ARM templates and utilized Swagger for API management and Azure resource deployment.
- Configured NuGet health checks, Logic Apps, and Azure AD for secure application authentication and resource management.

### **Junior Cloud Engineer**

*Aquila Software Services, Hyderabad, India | August 2019 – August 2021*

- Designed secure DevOps pipelines with OWASP models, Azure Key Vault, and SendGrid integration on CentOS and Azure platforms.
- Built CI/CD pipelines using NuGet, npm, gulp, .Net Core, and managed secure code artifacts from TFS and Git repositories.
- Led implementation of secure variable, task, and deployment groups for managing passwords and API keys.
- Supported GS1 .Net mobile applications by managing dependencies for smooth deployment.
- Developed Service Bus pipelines for GS1 applications to manage internal and user email communications.
- Deployed ASP.NET applications with SQL database pipelines, automating builds and releases via Azure DevOps.
- Configured Kubernetes clusters by modifying master node configurations for optimized cluster operations.
- Created database pipelines for infrastructure, integrating SSIS packages and deploying in Azure Data Factory.
- Mounted host directories to containerized agents for seamless infrastructure integration.
- Implemented SonarQube in Jenkins to enhance code quality for DXC's build and deployment projects.
- Conducted lift-and-shift migrations of VMware ESXi virtual machines to Azure using Azure Migrate and ASR.

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## **THESIS**

### **IoT Reliance on Cloud Computing and Fog Computing**

- Designed a distributed architecture model to improve task efficiency by 50% compared to traditional cloud systems.
- Integrated off-the-shelf IoT hardware for scalability testing, achieving a 25% reduction in task completion time for large datasets.
- Validated system performance under real-world conditions, ensuring more accurate and reliable metrics.

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## **CERTIFICATIONS**

**AWS Solutions Architect Certified**

**AWS Certified Developer- Associate**

**Microsoft Certified: Azure Fundamentals**

**GitHub FoundationAws**