Vidhyasimhan J

Senior Software Engineer

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📇 PROFILE

A Senior Software Developer having 6+ years of IT experience on Server side Development using VoIP technologies, Design and Development of Microservices for VoIP Applications in Multi-Cloud SaaS platform, Ideate and Implement new solutions to Improve CX in contact center space

Enthusiastic in learning leading edge technologies and continue to innovative in building software systems

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🧠 SKILLS

VoIP SIP Technologies
Hands-on Development Experience in SIP Server (C++) with proficient knowledge of SIP Architecture, Voice Call Interactions involving Genesys B2BUA SIP Server, Genesys T-Server components, Genesys Voice Processing, Cisco T-Server and Avaya T-Server

Cloud Devops & Automation
Azure DevOps, GCP, Terraform, GitHub Workflows, HELM, Kubernetes, NodeJS, Python, Microsoft certified Azure Fundamentals

Microservice Development
Experience in RESTful NodeJS based Microservice development for VoIP Applications, Consul Service Mesh, Redis Labs and Confluent Kafka for Data Management, Owner of a Voice Microservice responsible for design, develop, unit testing, CI/CD pipeline to deploy, observability and logging

Ideate & Innnovate
Three Patents under United States Patent Office, Robotic Process Automation in Contact Center Solutions, Experience in Architecting new Ideas and transforming into real-time solution to Improve CX

🎖 PATENTS & AWARDS

System and method for multimedia contact center interactions via an audiovisual asynchronous channel, *United States Patent Office* ⧉   15 Mar 2022
Patent is Successfully Filed

System and method for conducting an automated interview session,   03 Apr 2020
United States Patent Office ⧉
Patent is successfully **Granted** and valid till 2040

Systems and methods related to predicting and preventing high rates of agent attrition in contact centers, *United States Patent Office* ⧉   03 Sep 2020
Patent is successfully filed

Product Pick Award, *Genesys*   Jun 2019
Developed a solution in Automating Agent's Mundane tasks using Robotic Process Automation tools and awarded as Best Product Pick during Internal PureCloud Hackathon

Customer Excellence Award, *Genesys*
Recognized by Genesys for greater contributions in solving critical issues quickly, delivering features on-time

MVP Award, *Genesys*   Feb 2022
Recognized for learning new technologies and developing prototypes on Microservice Autoscaling, Grafana Dashboards, Redis Migration in production

Senior Software Engineer, Genesys **May 2022 - Present**

- As a senior software engineer, I am playing a critical role in solution level expertise of Voice Microservice group and manage them in Multi-Cloud SaaS platform
- Recent Epics/Projects:
  - Designed and Developed a service discovery feature through Native K8s by replacing Consul service mesh
    - This feature made huge **cost-cutting** for the organization instead of using managed consul service and replace those features natively with kubernetes
    - For on-premise customers, multi-site communication of Microservices achieved through ExternalDNS functionality which doesn't requires k8s cluster level access for security purpose

  - For a customer request of 100k concurrent interactions
    - Developed a redis-kafka adapter in C++ which gives high performance than NodeJS
    - This adapter will do XREAD from Redis Cluster through redis-plus-plus library and produce those events into Kafka topic using librdkafka library

  - Maintaining stability of Microservices across AZURE and GCP
    - Generalizing Terraform scripts as shared modules to create Cloud and K8s resources based on the SaaS cloud

  - Hands-on working experience in **SRE**:
    - Expertise in Loki LoqQL and Kibana queries and created a call lifecycle dashboard which helped company in debugging VoIP interactions during on-call customer issues
    - Designed and Deployed the forwarding of JSON logs through Fluent-bit sidecar container to ELK/Grafana

  - Contributed to **Openshift container** platform for on-premise customers
    - Deployed voice containers and helm charts into Openshift containers
    - Mounted logs into volume created by PVC and controlled on-premise customization through HELM overridden values

- Owner of a RESTful based Voice Microservice and responsible for:
  - Creating Design documents, Fixing Issues, Develop new Features and Add unit test cases using JEST framework
  - Service observability through metrics including health checks and golden signals
  - Automate Canary Deployment strategy through Jenkins and GitHub Workflows into K8s engine
  - Maintaining of Runbooks and Upgrade validation procedure document in confluence page

- Leading a team of three members by
  - Constantly guiding them with technical assistance
  - Conducting presentations on TOI of Voice Microservices
  - Presented Global Tech talks on Microservice Autoscaling using KEDA

Software Engineer, Genesys **June 2018 - April 2020**

- A key player in transition of multiple monolith architecture based VoIP application into **RESTful NodeJS based Shared Microservices**
  - Development of call supervision feature
  - Hands-on experience in data caching and streaming using Redis and Event streaming through Kafka

- Implemented the SIP Server C++ component logging and Microservice applications logging in JSON format

- Experienced in building **Terraform scripts, HELM charts, Dockerfiles and custom scripts**
  - Terraform scripts to create resources like K8s Cluster, Redis clusters, Secrets etc. And manage cloud infra resources through terraform state files backed up in Azure Storage Account / GCP Bucket storage
  - Created dockerfiles for containerization and HELM charts to wrap the k8s manifests for a microservice and deployed them in multi-cloud SaaS platform

- Successfully executed **Migration of Redis Clusters** in production through GitHub workflows with Export and Import of Redis data through scripts
  - This involves scale in and scale out of Redis Clusters as part of re-sizing activity

- Developed a Runbook automation in NodeJS with Confluent Kafka metrics API to identify risks by querying critical metrics of kafka cluster

- Supported customers with on-call pager duties on shift basis and highly focus on the recovery from the outage or damages to ensure microservices are **resilient** for failures

Associate Software Engineer, Genesys   **June 2016 - May 2018**

- 2+ Years of substantial work exposure as SIP Server developer in C++ language with deep understanding of SIP functionalities
  - **Subject Matter Expert** in Call Routing, Call Recording, Call Conference, Call Transfers, Callback, Predictive Call and SIP Registrations
  - Debugged SIP flows to analyze SDP negotiations, Session establishment, Session re-invites, hold/retrieve scenarios
- Developed a feature in SIP Server for **Microsoft customer** which prompts outbound callers to allow Call Monitoring and Call Recording as per GDPR compliance
- Performed Switchover operations of SIP Server running in HA mode
- Excellent Debugging experience in memory leaks and crash scenarios with tools like gdb, valgrind, UMDH, clumpsy
- Contributed to SIP Cluster development which was **modernized** from Standalone SIP Server
- Worked closely with **JPMC on-premise** customer and helped them in design, development of Agent After Call Work functionalities with multiple business use cases

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🎓 EDUCATION, CERTIFICATIONS AND TRAINING

Computer Science Engineering (Bachelors of Technology)   Jul 2012 – May 2016
SASTRA UNIVERSITY   Thanjavur, India

Microsoft Certified Azure Fundamentals, *AZ-900* ⊡

Azure Cloud, GCP Cloud and Kubernetes
Experienced hands-on training sessions at Genesys Premises

⊛ INNOVATION EXPERIENCE

RPA In Contact Centre
Ideated and Implemented in automating mundane repetitive tasks using RPA (Robotic Process Automation) tools such as Kryon, UiPath and Integrated them with Genesys WWE (Web Worskpace Edition) to ease Contact Center Agents Work Life

Attrition Predictor
Ideated and Developed Attrition Prediction Model using contact centre data for monitoring the Agent's lifecycle and foresee their next move as Agent Journey

Voice Authenticator
Ideated, Designed and Developed a machine learning model to authenticate customers just through their voice without going through IVR options

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⤜ REFERENCES

Ravikumar Gopal, *Director, Development*, Genesys
+91-950-008-3521

JayaSridhar (JAYA) Acharya, *Program Manager*, Canad Information Systems Inc., VA, USA
+1-(703)-801-5084

♂ INTERESTS

Music Composer ⊡ (Music Programmer, Keyboardist) │ **Badminton**