

HARSHA KALYANARAMAN



[linkedin.com/in/khvr](https://www.linkedin.com/in/khvr) harshakalyanaraman.com harshakalyanaraman@gmail.com github.com/khvr +1 (857) 800-5215

EDUCATION

Northeastern University, Boston, MA

Master of Science in Computer Systems Engineering, Internet of Things Specialization

Dec 2020

GPA: 3.5/4

Courses: Object-Oriented Design, Data Networking, Connected Devices, Web Design and user experience, Network Structures and Cloud Computing, Advanced Cloud Computing

SRM Institute of Science and Technology, Chennai, India

Bachelor of Technology, Electronics and Communication Engineering

May 2018

GPA: 9/10

Courses: Data Structures, Computer Communication

TECHNICAL SKILLS

Cloud Services:	AWS (IAM, EC2, S3, SNS, Dynamo DB, ELB, Lambda, RDS, CloudFormation, Cloudwatch, Route53), GCP, Azure
Web Technologies:	Node.js, AngularJS, MEAN stack, Sequelize ORM AJAX, jQuery, ASP.NET, HTML, CSS
CI/CD Tools:	CircleCI, Jenkins, Github Actions
Scripting:	Python, BASH
Version Control:	Git, SVN, TFS, Maven
Configuration Management:	Ansible, Packer, Terraform
Protocols and Architecture:	MQTT, CoAP, RESTful, MEAN
Kubernetes services:	K8s Operations (KOPS), GKE, AKS
Language:	JavaScript, Python, GO, Java
Container Technologies:	Docker, Kubernetes, Helm (v3+)
Testing Tools:	Jmeter, Mochajs
Database:	MySQL, Postgres, MongoDB
Monitoring & Streaming Tools:	Prometheus, Grafana, Kafka
Logging Stack:	ElasticSearch, Fluentd, Kibana

WORK EXPERIENCE

IT Division, SEC Of Massachusetts, Boston-MA

Application Developer Intern

Jan 2020 - Jun 2020

- Developed a Full stack web app using HTML, CSS, Javascript, SQL with .NET framework enabling users to select and register for workshops
- Implemented the web application using ASP.NET web Form (Master page, user controls, validation controls and AJAX extensions) and Web services, Windows communication foundation (WCF) and ASP.NET Web API
- Designed, programmed, and delivered a Microsoft .Net Web application to allow administrators to modify any part of the application and to keep track of the workshops and registrants using **ADO.NET** and **jQuery**
- Improved legacy front end by Created SQL scripts using **TSQL** (Stored Procedures and Triggers), **LINQ** as ORM and generated PDF using Crystal Reports which resulted into 50% faster loading times for the data heavy application

PROJECTS

Microservices deployment over Kubernetes, Northeastern University, Boston-MA [DevOps]

Aug 2020 - Dec 2020

- Managed Configuration using **Ansible** to setup and destroy A) **Jenkins** Server with elastic ip B) Kubernetes Cluster using **kops** and automated the installation of metrics server, cluster autoscaler, Nginx ingress controller and Letsencrypt cluster certificate issuer C) three RDS instances running on separate VPC peered to Cluster VPC
- Deployed the pre requisites for the applications using helm charts such as **Kafka**, Zookeeper, Metrics Stack - **Prometheus**, **Grafana** and Logging Stack - **EFK (ElasticSearch, Fluentd, Kibana)**
- Developed **Helm** charts to deploy 3 Micro services developed using Nodejs and containerized image is stored on a private **Docker** hub repository, installing deployments, services, Horizontal pod Autoscaler's and Ingress resource, to establish path based routing
- Decoupled the front end micro-service from other services by implementing Kafka streaming between then and used Jenkins to implement a CICD pipeline to build, push docker images to **Docker** Hub and perform rolling update style deployments on the Kubernetes cluster

Cloud Native Application on AWS, Northeastern University, Boston-MA [Cloud Deployment]

Aug 2019 - Dec 2019

- Developed a backend application with REST API architecture (**Node.js**, **PostgreSQL**) for recipe Management System which is deployed on EC2 instance ,ELB to distribute traffic and implemented CI/CD pipeline with **CircleCI**
- Configured IaaS using **Terraform** for VPN, AMI (using packer), EC2, ELB, SNS, Email Delivery with Lambda Function with SES , RDS, DynamoDB, S3, Route 53, CloudWatch, Autoscaling based on cloudwatch trigger, and IAM (Roles and policies)

Travcomp (Travel Companion) MEAN app, Northeastern University, Boston-MA [Node.js]

Jan - April 2019

- Developed a web application using **MEAN** Stack to design **RESTful** API servers for Hotel reservation web application for each user to view, edit and cancel reservations and persisting data on **MongoDB** database and perform basic CRUD Operations
- Performed unit testing by using **Mocha**, **Chai** and secured the app by implementing authentication and session management

Fire Alert Safety System, Northeastern University, Boston-MA [IoT/Python]

Feb - April 2019

- Brainstormed an IoT-Architecture with python that reads sensor data (temperature, humidity, smoke) from the SenseHAT of **Raspberry Pi** to automate fire detection for alerting and to collect valuable data sent to the Cloud for further analytics purpose
- Formulated a threshold when breached sets a variable which is subscribed (**MQTT**) by the actuators, the cloud stores data (JSON file) in its DB for actuation and future prediction

CERTIFICATION

AWS Certified Solutions Architect - Associate certification version (SAA-C02)

Sep 2020 - Sep 2023