

HARSHA KALYANARAMAN

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EDUCATION

Master of Science, Computer Systems

Northeastern University, Boston, MA

Courses: Object-Oriented Design, Data Networking, Web Development,
Network Structures and Cloud Computing, Advanced Cloud Computing

Dec 2020

GPA: 3.5/4

Bachelor of Technology, Electronics and Communication Engineering

SRM Institute of Science and Technology, Chennai, India

Courses: Data Structures and Algorithms, Computer Communication, Computer programming

May 2018

GPA: 9/10

TECHNICAL SKILLS

Programming and Scripting: Bash, Python, JavaScript, Java, C#, Go

Modern Tech stacks: AWS, Google Cloud, Azure, AngularJS, ASP.NET, MEAN, PostgreSQL, DynamoDB

Containers Orchestration: Kubernetes, Helm, Docker, Kubernetes Operations (kops)

Source Control & Automation Tools: Git, CircleCI, Kafka, packer, Terraform, Ansible, Jenkins

Protocols: MQTT, CoAP

WORK EXPERIENCE

IT Division, SEC Of Massachusetts, Boston-MA

Backend Developer Intern

Jan 2020 - Jun 2020

- Developed new and restructure legacy web applications, ensuring proper documentation and reports in all stages of product lifecycles which simplified bug fixing and code readability
- Enhanced website experience by analyzing needs of the client and developed engaging widgets and custom web tools for landing page across multiple web browsers to streamline accessibility for users
- Participated in daily meetings to update project leads and brainstormed new approaches to current problems in project progress
- Installed, configured, managed tools for resource & log Monitoring which optimized budget alerts and minimized service downtime
- Delivered consistent quality of service by building a robust pipeline with the client to ensure project goals were consistently met or exceeded measured from the consistently positive feedback of the manager and other teams
- Identified, analyzed and resolved bugs during testing 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

- Automated Configuration using **Ansible** to setup and destroy A) **Jenkins** Server (CI/CD pipeline to build, push linux images to DockerHub) B) Kubernetes Cluster using **kops** C) three RDS instances running on separate VPC peered to Cluster VPC
- Orchestrated highly available and reliable applications using **helm** charts including **Kafka**, Zookeeper, Metrics Stack - **Prometheus**, **Grafana** and Logging Stack - **EFK (ElasticSearch, Fluentd, Kibana)**

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

- Devised a web application using **MEAN** Stack for Hotel reservation web application with comprehensive integration tests to implement REST-based API 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