

Umesh Chandra Karagatla

([AWS Certified Cloud Practitioner](#))

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Education

University of Texas at Arlington, Arlington, Texas, USA

Aug 2022 – May 2024

Master's in Computer Science

GPA:3.8/4

Coursework: Web Data Management, Software Engineering, Cloud Computing, Design and Analysis of Algorithms, Data Analysis and Modelling Techniques, Data Mining, Artificial Intelligence, Neural Networks, Machine learning, Numerical methods

CVR College of Engineering (JNTUH), Hyderabad, India

Aug 2016 – Aug 2020

Bachelor of Technology in Computer Science and Engineering

GPA:3.8/4

Technical Skill Set

Programming Languages:	Java, Python, Golang, C++
Database & Servers:	MySQL, MongoDB, PostgreSQL, Cassandra, Oracle
Software Framework:	Spring Boot, JUnit, Django, Mockito, .Net, ADO.Net
Web Development:	JavaScript, Typescript, REST API, PHP, ReactJS, NodeJS, Angular, HTML5, CSS
Containers/Cloud:	AWS, Azure, Docker, Kubernetes
Tools:	IntelliJ, VS Code, Jenkins, Git, Gitlab, Bitbucket

Work Experience

Web Developer, University of Texas at Arlington, USA

Feb 2023 - June 2023

- Spearheaded the development of over 20 front-end and backend components for the college website using **React**, **JavaScript**, **HTML5**, and **CSS3**.
- Crafted captivating user interfaces and designed forms, resulting in a remarkable 30% increase in user engagement.
- Resolved more than 50 customizations and technical issues across the site, ensuring seamless user experience.

Software Engineer, Hopnet Communications LLP, India

March 2021 – Apr 2022

- Engineered end-to-end search feature for web-based applications using **ReactJS** & **TypeScript**, elevating user engagement by 30%.
- Implemented comprehensive test cases using **Jest** for both platforms, achieving 90% code coverage and reducing the number of reported bugs by 50% post-release.
- Orchestrated deployment and maintenance of cloud infrastructure using **AWS Cloud Development Kit**, ensuring project scalability and reliability.
- Created monitoring and logging dashboards using **AWS CloudWatch** to identify and troubleshoot potential issues in production.

Associate Software Engineer, Mouritech, India

Sept 2020 – Feb 2021

- Developed intricate **SQL queries** and **procedures**, resulting in a 30% reduction in the time required to generate employee benefits reports, thereby increasing operational efficiency.
- Created **AWS Quicksight** dashboards for dynamic real-time data monitoring. Additionally implemented, **Single Sign-On** (SSO) for seamless dashboard access using AWS CDK, optimizing user experience and security.
- As a part of automating report generation, worked on creating Python **lambda functions** which receives events and executes a query against athena.

Academic Projects

UTA MS CS Website (HTML, CSS, React, PHP, Node.js, Laravel, MongoDB)

- Constructed a dynamic web application during my Web Development Course, leveraging HTML/CSS/JavaScript alongside React.js, Node.js, PHP, Laravel, and MongoDB.
- Deployed the application on UTA Cloud for seamless accessibility.

Cloud Native Monitoring Application (Python, Kubernetes, AWS)

- Created a monitoring web application using Python with Flask and psutil.
- Containerized the application with Docker and locally built the image.
- Established an AWS Elastic Container Registry (ECR) using Python's Boto3 module and pushed the image.
- Deployed the application on an AWS Elastic Kubernetes Service (EKS) cluster with nodes.

Analyzing Disneyland Reviews using Sentiment Analysis (Machine Learning, NLP, LSTM)

- Built a machine learning model utilizing the Long Short-term Memory (LSTM) algorithm to classify reviews into three categories: positive, negative, and neutral.
- Visualized the results using **word cloud** and **heatmaps** to identify the most common positive, negative, and neutral phrases.
- Achieved an overall accuracy of 84% and an **F1 score** of 0.81 on the testing dataset.

CIFAR-10 image classifier using Convolution Neural Network (TensorFlow, PyTorch, Keras)

- Increased the number of layers and epochs to enhance the model's performance.
- Expertly trained the neural networks model using the **cross-entropy loss** function and **SGD optimizer**.
- Achieved a strong performance, demonstrating an accuracy of around 65% on the dataset.

Certifications

- AWS Certified Cloud Practitioner
- Full Stack Developer – Java, Restful WS, JSP, Spring by Mosh

Extracurricular

- Active member for the Google Developer Student Club at The University of Texas at Arlington participating in various tech-focused projects and events.
- Served as a Board Member for the College Chapter of the Computer Society of India (CSI) and conducted technical workshops, and talks, and created numerous programming quizzes during my undergrad.