

Venkata Sitha Madhav Vootla

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EDUCATION

University at Buffalo, The State University of New York

Master of Science in Computer Science

Aug 2023 – Dec 2024

Buffalo, New York

Vellore Institute of Technology

Bachelor of Technology in Electronics and Communication Engineering

Aug 2017 – May 2021

Vellore, India

EXPERIENCE

University at Buffalo

Research Volunteer

Feb 2025 – Present

- Developed **Carbon Footprint** web application using **.NET** framework for implementing backend RESTful APIs, integrating with MS SQL Server for data persistence, boosting the API response time by **15%**.
- Developed responsive web interfaces using **Angular, HTML5, CSS3, and TypeScript**, reducing page load time by **10%** and enhancing user experience with reusable components and seamless backend API integration.
- Deployed application on **AWS EC2** by integrating CI/CD pipelines and streamlining the deployment process.

Wipro LTD

Project Engineer

July 2021 – July 2023

- Worked with **Dell Technologies** to design and develop a robust web application that enhanced fraud detection and monitored sales activities across **5** business units resulting in **25%** reduction in fraudulent sales.
- Developed a high-performance, **microservices** based web application following **SOLID** principles, implementing **RESTful APIs** with **.NET Core** and a dynamic responsive UI using **Angular, HTML, CSS, TypeScript**.
- Optimized **SQL Server** and **MongoDB** for efficient **CRUD** operations using Entity Framework, ADO.NET, LINQ and integrated **Redis** caching to reduce database load and improve data retrieval speed by **10%**.
- Integrated **Apache Kafka** to efficiently handle high-frequency API requests, enabling asynchronous processing and decoupling services, resulting in a **15%** reduction in response time during real time data handling.
- Implemented **JWT, OAuth2.0** authentications and Role-Based Access Control (**RBAC**) in .NET Web API, enhancing security and ensuring authorized access to API endpoints based on user roles and permissions.
- Resolved over **20** critical bugs in a single **Agile** sprint cycle by debugging complex issues, and collaborating with cross-functional teams contributing to a **15%** improvement in overall efficiency of the application.
- Managed source control using **GitLab CI/CD** for deploying the application across **dev** and **prod** environments within the **VMware** on-premise infrastructure and integrated **Splunk** for API monitoring and analytics.
- Led the **end-to-end** development of a module, including API endpoints, implementing **Figma** designs in UI that played a pivotal role in identifying and flagging **50** fraudulent sales representatives and **\$150K** in sales.
- Migrated a **legacy** application to **cloud-native** architectures using AWS services (**ECS, Lambda, RDS, S3**), containerized with **Docker**, and orchestrated with **Kubernetes**, enhancing scalability and performance.

PROJECTS

Airport Database Management System

Feb 2024 – Apr 2024

- Developed Airport database system with **600,000+** records using **ER** modeling and normalization, translating into relational schema enhancing SQL query performance by **20%** and scalability for large datasets.
- Built a **Power BI** dashboard for actionable insights to drive data-driven decisions and boost profitability.

Movie Ticket Booking System

April 2021 – July 2021

- Designed and developed backend RESTful APIs with Spring Boot for movie ticket bookings, integrating **Swagger** and **Postman** for API validation and PostgreSQL with **JPA, Hibernate, HQL, and JDBC** for data access.
- Implemented CI/CD pipelines with Jenkins and deployed application on AWS EC2, ensuring smooth deployments.

TECHNICAL SKILLS

Programming Languages : C#, Java, Python, TypeScript, JavaScript, SQL, HTML, CSS

Frameworks : Angular, .NET, .NET Core, Spring Boot

Databases : Microsoft SQL Server, PostgreSQL, MongoDB

.NET Frameworks : ASP.NET MVC, ASP.NET Web API, ADO.NET, Entity Framework

Containerization : Docker, Kubernetes, Microservices

IDEs : Visual Studio, VS Code, MS SQL Server Management Studio, IntelliJ IDEA, Jupyter Notebook

Others : Git, GitLab, CI/CD, JSON, Jira, Confluence, Figma, Power Bi, Postman, Kafka, Swagger, VMware, AWS