

# Venkata Srinivas Charan Madu

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## EDUCATION

### University of Washington, Seattle

Master of Science in Information Management - Data Science

Seattle, USA

September 2023 - Present

### International Institute of Information Technology, Bangalore (IIITB)

Integrated Master of Technology in Computer Science and Engineering

Bangalore, India

## WORK EXPERIENCE

### MICROSOFT

Hyderabad, India

#### Software Engineer

August 2020 - August 2023

- Worked on **Azure Backup**, a highly scalable tier-0 Azure service protecting Azure resources, developing features and optimizing backend workflows across its microservices using **.NET**, **C#**, and Cosmos **NoSQL** database.
- Designed and developed **Multi-user authorization** feature for Azure Backup to protect 8 critical scenarios, safeguarding over **2500 backup vaults** across nearly 500 subscriptions against ransomware attacks.
- Implemented Preflight validation for the deployment templates of 4 Azure Backup resources, and **reduced failure rate** of their deployment due to incorrect input and compliance issues by **92%**.
- Optimized the Configure backup operation for IaaS virtual machines with Recovery Services Vault by identifying and resolving multi-threaded and inter-service sync issues, which **reduced failure rate by 82%**.
- Enhanced Rollover process of authentication certificates of containers and automated the cleanup of dangling certificates, **eliminating 3 days** of effort of the Ops team to rotate over **100 certificates every month**.
- Improved **code coverage** of Azure backup management plane microservice from **65% to 85%** over 2 months.

### IIITB INNOVATION CENTRE

Bangalore, India

#### Product Development Intern

January 2020 - June 2020

- Conducted **75 customer interviews** for market research and **customer discovery** process, and constructed a business model for Raydius - a map based platform to discover and share the happenings of a neighborhood.
- Implemented an MVP for Raydius, a mobile app (**Android/iOS**) using **React Native** and **GCP NoSQL** database.
- Identified and refined **4 use cases** as primary verticals, which **increased user engagement by 72%**.

## SKILLS

**Programming/Tools:** C++, Java, Python, C#, R, Go, JavaScript, TypeScript, Jupyter, Git, HTML5/CSS3, Postman

**Databases:** SQL, NoSQL, SQL Data Warehouse, MongoDB, Apache, Azure Cosmos DB, Google Cloud Firestore, Kafka

**Data Science:** Classification, Regression, Hypothesis Testing, Neural Networks, Statistics, AI, Azure ML, Decision Trees

**Frameworks/Libraries:** .NET, JDK, OpenGL, D3.js, React Native, Node.js, React, Flask, Angular, Hadoop, Vue.js, Spring

**Concepts/Technologies:** RESTful APIs, Backend, Design Patterns, Object Oriented Design, Cloud Computing, AWS

**Coursework:** Data Structures, Algorithms, Machine Learning, RDBMS, Software Design, SDLC, Analytics, Leadership

## PROJECTS

- **Agent Based Modeling of Drug Resistant Diseases:** Built a simulation model in **Python**, **Java**, and Repast City to simulate drug resistance in tuberculosis, capable of simulations of **2000 years** within **6.5 hours** run-time.
- **Telecommunication Spectrum Visualization:** Integrated run-time **D3.js** based visualizations of Indian telecom spectrum data from an **SQL** database to a web portal and built a **CI/CD DevOps** pipeline using **Jenkins**, **Docker**, **Apache Spark**, and **AWS** to enable team collaboration.

## LEADERSHIP AND ACHIEVEMENTS

- **Lead Technologies Administrator of ASUW** at the University of Washington since November 2023, leading a team of 3 developers to develop and maintain the websites, database, servers, and tech support.
- **Institute Gold Medal** for the All-Rounder of the graduating batch of 2020, awarded by IIITB, for exceptional all-round activities like academics, community, and organization.
- **Elected President of the Student Activity Council** at IIITB from 2016 to 2017, organized events in the campus, acted as the POC for inter-university and alumni communications, managed club activities and funds.