Venkata Srinivas Charan Madu

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EDUCATION

University of Washington, Seattle, USA   September 2023 - May 2024
Master of Science in Information Management - Data Science

International Institute of Information Technology (IIITB), Bangalore, India   August 2015 - June 2020
Integrated Master of Technology in Computer Science and Engineering

PROFESSIONAL EXPERIENCE

MICROSOFT, Hyderabad, India   August 2020 - August 2023
Software Engineer

- **Backend Dev:** Worked on Azure Backup, a highly scalable tier-0 service protecting Azure resources, developing features and optimizing backend workflows across its microservices using .NET, C#, and Cosmos database.
- **Feature Design/Dev:** Designed and developed Multi-user authorization feature for Azure Backup to protect 8 critical scenarios, safeguarding over 2500 data vaults in nearly 500 subscriptions against ransomware attacks.
- **Failure Reduction:** Implemented Preflight validation for deployment templates of 4 Azure Backup resources, and reduced failure rate of their deployment due to incorrect input by 92%, while maintaining reliability.
- **Performance Engineering:** Optimized the Configure backup operation for IaaS virtual machines by identifying and resolving multi-threaded and inter-service sync issues, which reduced failure rate by 82%.
- **Optimization/Automation:** Enhanced the rollover process of container auth certificates and automated dangling certificates cleanup, saving 3 days of effort of the Ops team to rotate over 100 certificates every month.
- **Code Coverage:** Improved code coverage of backup management plane service from 65% to 85% in 2 months.
- **Mentorship:** Mentored 2 interns, providing guidance for onboarding, development, PR reviews, and testing.

IIITB INNOVATION CENTRE, Bangalore, India   January 2020 - June 2020
Product Development Intern

- **Requirements Gathering:** Conducted 75 customer interviews for market research and customer discovery, and constructed a business model for Raydius - a map based platform to discover and manage local events.
- **Prototyping:** Prototyped an MVP - a mobile app (Android/iOS) using React Native and GCP NoSQL database.
- **A/B Testing:** Identified and refined 4 use cases as primary verticals, and increased user engagement by 72%.

SKILLS

Programming/Tools: C++, Java, Python, C#, R, JavaScript, TypeScript, Jupyter, Git, HTML5/CSS3, Postman, Swagger
Databases: SQL, NoSQL, SQL Data Warehouse, PostgreSQL, Azure Cosmos DB, Google Cloud Firestore, Kafka, Redis
Data Science: Classification, Regression, Hypothesis Testing, Neural Networks, Statistics, AI, EmbedChain, OpenAI
Cloud Technologies: Cloud Computing, Distributed Systems, Microsoft Azure, AWS EC2, Lambda, GCP, FireBase
Frameworks/Libraries: .NET, JDK, OpenGL, D3.js, React Native, Node.js, React, Flask, Angular, Hadoop, Vue.js, Spring
Concepts: Web Dev, REST APIs, Design Patterns, Object Oriented Design, System Design, Microservices, OAuth
Coursework: Data Structures, Algorithms, Machine Learning, RDBMS, Software Design, SDLC, Analytics, Leadership

PROJECTS

- **Agent Based Modeling of Drug Resistant Diseases (Simulation):** Built an AI 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.
- **Telecom Spectrum Visualization (Full Stack, Web Dev):** Integrated D3.js visualizations of Indian telecom spectrum data from an SQL database to a web portal using Javascript, Java, and built a CI/CD DevOps pipeline using Jenkins, Docker, ELK, and AWS for 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.