Rushil Vegada

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EDUCATION

Master's, Computer Science   **Aug 2023 - Dec 2024**
North Carolina State University, Raleigh, NC

Bachelor of Technology, Computer Engineering   **Aug 2019 - May 2023**
Pandit Deendayal Energy University, Gandhinagar, India

TECHNICAL SKILLS

Programming & Frameworks: Python, JavaScript, Java, C++, R, Ruby, Flask, Django, Express.js, Node.js, React.js, HTML, CSS
Software Development & Database: Git, REST APIs, JIRA, Agile, Scrum, MongoDB, MySQL, PostgreSQL, DynamoDB, Redis
Cloud and DevOps: AWS, Google Cloud, Google Firebase, Docker, Ansible, Jenkins, Kubernetes, Terraform
Data Engineering & Science: Machine Learning, Deep Learning, Apache Spark, Tableau, SAS JMP, TensorFlow, Pandas, Power BI
Other Technologies: Product Management, Computer Vision, Hadoop, Blockchain Technology, Selenium, Apache Kafka

WORK EXPERIENCE

Software Developer | Phytotron, NCSU, NC   **June 2024 - Present**
- Designed and developed an accounting application using Node.js, ReactJS, and MongoDB Atlas, enabling internal teams across multiple Phytotron locations to manage projects, resources, invoicing and payments.
- Developed a system for clients to submit project applications, allowing team members to approve or reject submissions. Structured database to accommodate location-specific requirements, allowing different Phytotron sites to allocate resources w/o impacting others.

Software Engineer Intern | BellAir Aviation, NC   **May 2024 - Aug 2024**
- Developed a real-time business insights dashboard for BellAir, enhancing data accessibility for 80+ employees of BellAir.
- Automated real-time data extraction & uploading to AWS DynamoDB using Python, Docker, & EC2, reducing manual efforts by 90%.
- Designed a data pipeline with AWS Lambda and Athena, seamlessly transferring data from DynamoDB to the website backend.
- Hosted the frontend on AWS Amplify and backend on Elastic Beanstalk, securing the site with custom domain and SSL from Route53.

Graduate Research Assistant | North Carolina State University, NC   **Mar 2024 - May 2024**
- Engineered a ResNet50 & CNN model for shape detection of cotton fibers in spinning machines, achieving 95% accuracy.
- Annotated 1700+ images with boundary box coordinates for training the models, enabling precise fiber formation analysis.

Teaching Assistant | North Carolina State University, NC   **Aug 2023 - May 2024**
- Instructed the course "Intro to Business Analytics", covering Excel, Tableau, PostgreSQL, and SAS JMP to 80 students.
- Provided hands-on mentorship to students on developing Tableau workbooks to Regression models for practical knowledge.

Cloud Developer Intern | Cloud Ladder Consulting, TX (Remote)   **May 2022 - Jul 2022**
- Built a location-based search query web-app using Flask, JavaScript, AWS, and Google Cloud, reducing app load time by 50%.
- Enhanced location services with Google Maps API and AWS CloudFront, cutting API response time by 35%.
- Achieved 99.9% system uptime using AWS CloudTrail, Route 53, and CloudFormation for infrastructure management.

Software Developer Intern | Initialyze Inc., CA (Remote)   **Jul 2021 - Aug 2021**
- Engineered an Authentication tool and Payment API using MERN stack, optimizing onboarding by 40% and increasing transactions by 25%; created a Python tool for phone verification, improving accuracy by 95%.
- Conducted rigorous UI evaluations using JIRA & Excel, resolving 100+ critical bugs and ensuring design compliance across platforms.
- Streamlined and optimized REST APIs, achieving 20% faster data retrieval, and validated enhancements through Postman testing.

PROJECTS

KubeLine - CI/CD pipeline to deploy on Kubernetes | DevOps | (Code)   **May 2024**
- Constructed and containerized 2 microservices using Docker and deployed on Google Kubernetes Engine (GKE) with Terraform.
- Integrated a CI/CD pipeline using GCP Cloud Build, Cloud Source Repository, and Artifact Registry to automate deployment.
- Utilized persistent volumes in GKE for stateful data management, ensuring reliable data storage and retrieval across deployments.

Expertiza - National Science Foundation | Open Source Contribution | (Code)   **April 2024**
- Restructured Expertiza's Review Mapping Helper and Controller using Ruby on Rails, reducing lines of code and cognitive complexity of functions, adhering to object-oriented practices and integrated MySQL for efficient data management.
- Wrote comprehensive RSpec test cases for the Assignment model, achieving 97% test coverage and ensuring code reliability.
- Employed Docker for seamless deployment and scalability, while utilizing Git for version control and collaborative development.

AiCurate - AI-Powered Image Curation Platform | Cloud Software Development | (Code)   **Feb 2024**
- Developed a scalable, AI-powered image platform using AWS services (EC2, Lambda, S3, DynamoDB, API Gateway) and technologies (Python, Node.js, ReactJS) to enable users to detect labels, moderate content, and access a shared image gallery.
- Implemented an alert system using AWS SQS, SNS, and AI Rekognition to notify admins of flagged content.
- Launched a serverless architecture utilizing AWS Lambda for content moderation and batch processing, and leveraged CloudFormation for Infrastructure as Code (IaC) deployment.