VIDHYA RAVI
Software Development Engineer

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SUMMARY

Experienced Software Development Engineer (SDE) with a proven track record of designing, developing and supporting database-driven web applications and server-side frameworks. Skilled in Java and Python, with expertise in cloud computing and agile methodologies Known for effective communication and a collaborative team player, committed to ongoing growth and consistently delivering top-tier outcomes.

EXPERIENCE

Software Development Engineer / Amazon – AWS Fintech / Seattle, WA   July 2022 – Jan 2023

- Designed and developed a web application called REVA that supports Amazon's internal stakeholders in monitoring the company's progress toward achieving the goal of 100% renewable energy by 2030. It is developed using Amazon AWS services **like Lambda, S3, DynamoDB, IAM, API Gateway.**
- Led this design and development of scalable **Big Data** Warehouse solutions on the AWS Cloud, leveraging cloud-native technologies and best practices to ensure optimal performance and efficiency.
- Implemented a **personalized recommendation engine** for an e-commerce platform. Deployed on AWS infrastructure, incorporating Apache Spark for big data processing. Collaborated with data scientists to refine models, resulting in enhanced customer engagement and sales conversion rates.
- Designed and developed a dedicated UI page, enabling customers to effortlessly access project valuations, cash flows, and portfolios in their local currency, enhancing user experience and engagement.
- Engineered a user-friendly interface utilizing the **Polaris framework (ReactJS, HTML and CSS)** to display currency view reports with toggle options, ensuring seamless integration with backend **REST services** for optimal functionality and usability.
- Implemented metrics for REVA in AWS services, helping developers in logging and monitoring performance metrics effectively.
- Developed web applications using Python Flask framework, leveraging its lightweight and flexible nature to create scalable and robust solutions.
- Developed and implemented a module to streamline data transfer between **S3 and No SQL DynamoDB** across multiple AWS accounts leveraging AWS Lambda which also improved developer efficiency.
- Implemented complex database interactions using **SQLAlchemy ORM** in Python Flask applications, ensuring efficient data handling and manipulation while maintaining database integrity and reliability.
- Enhanced the model algorithm in REVA, aligning near-term and long-term forecasts with future costs using Python Boto3, Lambda, and ReactJS components for accurate planning cycle changes.
- Partnered with internal stakeholders for **gathering business requirements**, that aided in a smooth roll-out of the features.
- Deployed services using **AWS CloudFormation Stacks**, actively monitoring metric alarms and debugging service logs with CloudWatch, in addition to providing on-call support for operational tasks.
- Maintained **Elasticsearch** indices and queries to support real-time search and analytics functionality, contributing to the improvement of search performance
- Create and execute unit tests using **test-driven development (TDD)** practices to ensure code quality and early detection of defects.
- Proven ability to take **ownership** of projects and provide direction, collaborating effectively with colleagues at different levels of expertise. Exhibited leadership qualities in guiding project teams towards successful outcomes and delivering projects within established timelines.
- Actively participated in Hackathon and hacked a solution to automate local testing of websites like DataStudio and REVA thereby reducing deployment time from 30 minutes to minutes. This helped developers to leverage local backup data for testing instead of production data.
- Onboarded a new hire at Amazon in acclimating to internal tools and achieving a comprehensive grasp of the application.

Tech Stack: Python, XML, ReactJS, AngularJS, Big Data AWS, Apache, JavaScript, CSS, HTML.

Software Development Engineer | Amazon | Seattle, WA   Jan 2023 – present

- Designed and implemented a permission model **(AuthN and AuthZ)** to retrieve the **LDAP groups** for the AMPS web application, supporting AWS Marketing and WWPS, utilizing **AWS Brass, API Gateway, and Neptune GraphQL Database**. This model enables users to manage(CRUD) budgets across all Amazon organizations.
- Implemented a role module in the frontend with **Node.js** to manage all CRUD operations through Permission model APIs integrated into the backend.
- Implemented a message queuing syatem called AWS FinBI Conversations using **RabbitMQ** to facilitate asynchronous communication between microservices, ensuring efficient and reliable message delivery in distributed systems.
- Proficient in using **AWS/CDK (Typescipt)** for implementation of IAM roles, related functions and adding related policies for granting cross-account access among two different AWS accounts.
- Utilized Figma and collaborated with UX team to design system architecture and adeptly translated **Figma design prototypes** into functional applications during system design implementation.
- Collaborated effectively with stakeholders to **conduct design reviews** and demos, contributing to the integration of new features and enhancements for internal AWS Finance users.
- Developed test specs and implemented unit and integration tests utilizing **JUnit and Mockito** within an Agile framework.
- Engaged in application security (AppSec) tasks and used **SAST** and **IAST** to address and resolve security-related bugs.
- Proficient in utilizing Version Control Git and **CI/CD pipelines** for Code Management, actively engaging in Peer Code Reviews.
- Proficient in configuring and managing Apache web servers to efficiently serve web applications and static content, ensuring high availability and optimal performance in diverse environments.
- Developed critical functionalities within **Docker**, utilizing the **Go** programming language to architect core components like the Docker Engine and Docker CLI. Through this project, I contributed to enhancing Docker's capabilities, enabling efficient container management and deployment across diverse computing environments.
- Showcased adept **problem-solving** abilities and adept **project management skills**, leading to enhanced user experience and operational efficiency.

Tech Stack: Java, XML, ReactJS, AngularJS, Go, NodeJs, AWS, CSS, Figma.

Software Engineer / PNC Bank - Accenture / India   May 2019 – Jan 2021

- Developed and maintained a PNC banking application to manage account details and performs financial transactions for the customers. It was developed using **C++, JavaScript, HTML, CSS, and SQL,** which ensured secure authentication and authorization with Spring Security.
- Contributed to the development of an PNC Bank Android/iOS application using **Kotlin**, collaborating with a team to implement new features and improve existing functionality.
- Proficient in utilizing **Static Application Security Testing (SAST)** and **Interactive Application Security Testing (IAST)** tools and used it to test web application to ensure the robustness and security.

- Implemented and optimized MapReduce algorithms within **Hadoop** framework to process large-scale datasets, resulting in significant improvements in data processing efficiency and reduced computational overhead.
- Engaged in all phases of the Software Development Life Cycle (SDLC), including requirement gathering, analysis, design, and code development. Designed and implemented the backend framework using **Spring Boot and Java.**
- Demonstrated proficiency in utilizing serverless platforms such as **Azure and Google Cloud** to develop and deploy scalable applications, optimizing resource utilization and enhancing performance.
- Executed automated test cases using TestNG and Cucumber framework, collaborating with QA and technical product management teams to fortify system reliability
- Expert in Mainframe testing, ETL job, API testing and Web based applications.
- Created and managed SQL Server databases, tables, views, stored procedures, and backups using SQL Server Management Studio.
- Established a CI/CD pipeline using Groovy and Jenkins, deploying applications into Kubernetes for high-quality software delivery.
- Worked closely with sales teams and customers to enhance applications according to user needs.

Tech Stack: C++, Java, Kotlin, SpringBoot, XML, ReactJS, AngularJS, NodeJs, MySQL, TestNG, Cucumeber, HTML, CSS, Azure, Google Cloud

Graduate Teaching Assistant / **University of Houston Clear Lake** / **Houston, TX**   **Jan 2021 - May 2022**
- Delivered an Object-Oriented Programming class in Java for 40 students and provided personalized support for assignments, debugging, and deployment using Putty.
- Elevated class performance by 25% by helping in management of complex Java assignments.
- Optimized administrative and educational processes, encompassing grading, proctoring, and collaboration with professors to deliver targeted instruction, thereby enhancing course efficiency.

SKILL SET

Languages	Python, JavaScript, Java, C++, C.
Web Technologies	HTML5, CSS, JavaScript, HTTP, XML, JSON, Angular JS, React JS.
Tools and Frameworks	AWS , REST API, Microservices, Django, Flask, REST, Docker, JIRA, GitLab, Linux, JUnit, Spring, lambda functions, Spring Boot, Microsoft Azure, React JS
Databases	MySQL, PostgreSQL, NoSQL.
Build/Deployment Tools	Docker, Jenkins, Tomcat, Git/GitHub, Kafka.
AWS	IAM, S3, DynamoDB, Elastic Beanstalk, ELB, RDS, Route53, Cloud Watch, Cloud Formation, EC2.

EDUCATION

University of Houston Clear Lake / **Houston, TX**   Jan 2021 - May 2022
Masters in Computer Engineering   **GPA**: 3.9/4.0