

## **ASE / SE Responsibilities -**

### **Duties and Responsibilities.**

- Researching on the Evolution and optimization of the Ranku platform, developing a proof of concept (PoC) to improve user experience, simplify the application, and enhance SEO optimization using React with server-side rendering.
- Played a key role in refining the configuration management processes for the Knewton Enterprise Platform, implementing Kubernetes config maps and the Reloader service for zero-downtime configuration updates.
- Enhanced testing protocols for Ranku by introducing UI testing and synthetic monitoring with Dynatrace, enabling effective real-time monitoring and issue resolution.
- Developed a comprehensive testing framework for Knewton using JUnit, Mockito for Java, and RSpec for Ruby, and created a load-testing framework with Locust to verify application scalability.
- Adhered to Engineering Best Practices (EBPs) for coding standards across JAVA, JavaScript, and Python, ensuring consistency, maintainability, and scalability. Followed strict guidelines for source files and code structure to maintain quality and uniformity.
- Implemented advanced software engineering practices including CI/CD Best Practices, Git Branching Best Practices, and security testing methods such as SAST, DAST, and IAST, enhancing operational efficiency.
- Developed and maintained technical programs for Knewton, ensuring alignment with the latest specifications and industry best practices.
- Created and revised comprehensive feature documentation for Knewton Enterprise Platform, facilitating team education and efficient onboarding of new engineers.
- Conducted knowledge transfer sessions for new team members, ensuring quick onboarding and understanding of the Knewton platform.
- Authored multiple technical specifications and contributed to reducing cloud costs through strategic analysis and proposals.
- Managed and refined automation suites and deployment pipelines for Ranku and Knewton Enterprise Platform using Jenkins and Kubernetes, ensuring reliable and efficient deployments.
- Developed CI/CD pipelines and collaborated with the team to monitor and resolve pipeline issues.
- Developed Grafana and Splunk dashboards to provide insights into system performance, enabling proactive issue identification and resolution.
- Utilized Heroku's deployment pipeline for systematic testing and deployment of Node.js applications, ensuring robust continuous delivery processes.
- Integrated continuous testing into the deployment pipeline to reduce risks and maintain high software quality, optimizing the deployment process for frequent and reliable updates.
- Assisted in the monitoring and troubleshooting of CI/CD pipeline issues, ensuring timely resolution and minimal disruption to the development cycle.

## **SSE / TS Responsibilities -**

## **Duties and Responsibilities.**

- Developed a solution to generate graph visualizations for the Knewton Enterprise platform, improving transparency and usability for partners by allowing them to view and understand their data organization within a directed acyclic graph.
- Streamlined the partner graph ingestion process on the Knewton Enterprise platform by evaluating existing systems, identifying validation limitations, and implementing improvements to enhance efficiency and reliability.
- Resolved a critical issue in the event-driven message pipeline of the Knewton Analytics Platform, leveraging technologies like Kafka Streams, DynamoDB, and AWS MSK to ensure reliable and ordered event processing.
- Conducted load testing with the Locust framework to optimize service performance and fix bugs.
- Adhered to Engineering Best Practices (EBPs) for coding standards across JAVA, JavaScript, and Python, ensuring consistency, maintainability, and scalability. Followed strict guidelines for source files and code structure to maintain quality and uniformity.
- Contributed to the Knewton Analytics Platform, Knewton Enterprise Platform, and Knewton Alta by writing comprehensive technical documents before developing new features. These documents detailed planned changes identified potential risks, and outlined mitigation strategies.
- Played a key role in onboarding new team members by conducting knowledge transfer sessions, developing technical specifications, and leading a research initiative to reduce cloud costs, resulting in significant savings.
- Developed CI/CD pipelines for various services on the Knewton platform using Jenkins and Kubernetes, collaborating with the team to monitor and resolve pipeline issues, ensuring reliable and efficient deployments.
- Contributed to maintaining and adding new tests to the integration test suite written in Ruby RSpec when new features were added.
- Utilized Graphite, Prometheus, and CloudWatch for monitoring services and platform resources, complemented by Splunk for log monitoring. Developed multiple Grafana and Splunk dashboards to provide comprehensive visibility into service performance and operational health.
- For load testing, analytics from Pendo were used to analyze expected usage during peak times, such as back-to-school (BTS) periods, and load tests were conducted accordingly.
- Continuously upgraded and maintained services by updating Java, Python, and other dependencies to make sure the platform services are up to date.
- Identified and mitigated performance risks in Java services on the Knewton platform through performance analysis and load testing, addressing garbage collection issues by adjusting JVM settings and refining the codebase.
- Played a key role in reducing the cost of our platform by conducting thorough analysis and identifying areas for downsizing services. This involved recognizing services with heavy resource allocations that were underutilized and optimizing their configurations accordingly.
- Reduced costs associated with S3 storage by updating storage classes, adding lifecycle rules, and removing unnecessary data, leading to more efficient and cost-effective data management.