GOKUL KAARTHICK SHANMUGAM

SOFTWARE DEVELOPMENT ENGINEER

📞 +1 (930) 215-4731 ✉ kaarthickgokul@gmail.com ♦ gokulkaarthick.eth 🔗 https://www.linkedin.com/in/gokulkaarthick

Education

Indiana University Bloomington **August 2024 – December 2025**
Master of Science in Computer Science *Bloomington, Indiana*
Coursework: *Computer Networks, Software Engineering, Machine Learning*

Sri Krishna College of Engineering and Technology **August 2017 – May 2021**
Bachelor in Information Technology *Coimbatore, India*
Coursework: *Distributed Systems, Software Development, Operating Systems*

Technical Skills

Languages/Frameworks/Monitoring: Java, Python, Spring Boot, Perl, Apache, Javascript, Grafana, Prometheus
Developer/ML Tools: VSCode, Android Studio, Postman, K9s, Minikube, Helm, PyTorch, TensorFlow, OpenCV
Technologies: Selenium, Git, Perforce, Elasticsearch, Scribe, Linux, Ansible, Puppet, Kubernetes, RabbitMQ, Kafka
Key Competencies: Data Structures, Algorithms, DynamoDB, React

Work Experience

Athenahealth

Senior Software Development Engineer *September 2022 – July 2024*

- Created automation scripts for 17 workflows streamlining repetitive manual tasks, eliminating human errors and improving productivity.
- Coordinated with cross-functional teams to implement **OpenSearch** as the new logging infrastructure, and developed Terraform scripts to automate Amazon Web Services (AWS) infrastructure deployment for 3 organization products.
- Evaluated system performance to identify potential threats in the current architecture and implemented **Kubernetes-native deployment** prototype, leading to a 60% reduction in cost and a 35% enhancement in scalability.
- Onboarded and mentored 6 junior and senior developers into the team by providing Knowledge Transfer (KT) and pair programming, demonstrating leadership and updated documentation with new changes to product.
- Diagnosed and resolved a critical memory leak issue in the cloud-based infrastructure by identifying a flaw in the default CPAN open source module, reducing Internal Server Errors (ISE) by 45%.
- Secured second place in the 2023 company-wide hackathon for building a VScode extension for VM Management, a leadership-driven initiative that lowered Site Reliability Engineer (SRE) intervention by 100%.

Software Development Engineer *July 2021 – August 2022*

- Took ownership of the product in an Agile environment as Scrum Master, supporting issue resolution and serving as the Single Point of Contact (SPOC) to lead the team toward problem resolution.
- Led OS migration, reducing developer intervention and cutting project timeline by 3 months.
- Implemented a **bucket brigade** algorithm to filter and block exploit requests, mitigating the **Log4j** vulnerability.
- Built front-end and back-end architecture for a rate-limiting feature for high-traffic routes, reducing downtime by 95% due to **DDOS attacks** and reducing server allocation costs by 50%.
- Automated the **Disaster Recovery** evaluating process, reducing Mean Time To Recovery (MTTR) by 97%.
- Showcased in the company hall of fame 2022 for the quick resolution for Log4j exploit **CVE-2021-44228**.

Software Engineering Intern *January 2021 – June 2021*

- Designed dashboards for **in-house framework** "AthenaX" enabling quick **debugging** for production issues, boosting web uptime to 97% and reducing incident resolution time by 50%.
- Evaluated and enhanced code coverage to 99% by implementing unit tests for key components.
- Authored technical onboarding documentation and all 5 key web components.

Projects

- Fake Profile Detection using neural network published in International Journal of Computing Systems - **Keras, Seaborn**.
- Task Automator using Google calendar API to fetch data and selenium to automate two workflows - **Selenium, Redis**.
- VMware Aria Suite to manage any number of cloud VMs at once - **Terraform, CI/CD Jenkins**.
- Moratorium Chatbot using Watson API - **IBM Watson NLP, Flask, React.js, Twilio API**.
- SKCET Hub - Intranet College application to access the college amenities and all 5 shops - **Spring Boot, OAuth 2.0**.