GIRISH KULKARNI

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EDUCATION

NORTHEASTERN UNIVERSITY Boston, MA
MS. Software Engineering Systems (GPA: 3.85/4.0) *2025*

VELLORE INSTITUTE OF TECHNOLOGY Vellore, India
Bachelor's in Computer Science Engineering (GPA: 8.4/10) *2021*
Activities: Technical Lead at TAG Club

CORE COMPETENCIES

Languages/Frameworks: Go, Java, JavaScript, Python, C++, React, TypeScript, Gin, Flask, Springboot, Shell Script, HCL
Databases/Web Development: PostgreSQL, MongoDB, Redis, Elasticsearch, Kafka, RabbitMQ, GraphQL, HTML, CSS, gRPC, REST, Oracle SQL, OAuth 2.0, Unit Testing, Integration Testing, Contract Testing, Automation Testing
Devops Tools: Linux, Docker, Kubernetes, Terraform, Ansible, CI/CD, Google Cloud, Amazon Web Services, Packer, Grafana, Prometheus
Machine Learning: Torch, TensorFlow, NumPy, Pandas, Scikit Learn, Matplotlib

EXPERIENCE

IDFC FIRST BANK Bengaluru, India
Application Engineer - Credit Cards Division 07/2021 – 07/2023
- Created the "IDFC's Credit Card," a **GO-based Credit Card net banking** backend application used by **1 million users,** ensuring resilience and error testing through **Integration and Pact Driven Contract Tests**
- Collaborated with business analysts and stakeholders to support functional requirements of consumer-facing APIs, such as **bill payments and credit card transaction conversion to EMI.**
- Designed and **normalized database schema** for paying house rent through credit cards, including implementing endpoints for **interbank fund transfer and beneficiary management.**
- Implemented **Kafka integration** to enable real time monitoring of card and account activity, promptly alerting on viewing sensitive card information and changes in limits to mitigate fraud.

AFFORD MEDICAL *(A marketplace for pre-owned medical equipment)* Hyderabad, India
Backend and DevOps Intern 12/2020 - 05/2021
- Implemented a **microservices architecture**, allowing seamless communication between multiple services through **gRPC** proto buffers, which led to a 40% increase in transactions within the first three months.
- Built and maintained fully automated **CI/CD pipelines** using Gitlab CI, ensuring continuous integration and delivery.
- Deployed the website on **Azure Kubernetes Service (AKS),** leveraging the power of cloud infrastructure to ensure reliability and performance.
- Successfully designed and implemented an in-house **concurrent cache using Golang**, specifically utilizing **heaps,** significantly reduced operational costs by eliminating the need for reliance on external caching systems like Redis.

EXTRACURRICULAR ACADEMIC PROJECTS

CLOUD NATIVE WEBAPP (link)
- Designed a resilient network architecture using **Terraform with VPC**, Subnets, route tables, and Cloud NAT, and implemented **dynamic scaling through Google Cloud Autoscaling**, leading to a 30% reduction in infrastructure setup time.
- Developed custom images using **Packer and Terraform for Google Compute Engine**, and integrated CI/CD pipelines via GitHub Actions, enhancing deployment efficiency by 50%.
- Integrated **Cloud Function based Email Verification** to verify Signed up users email's, secured application endpoints using SSL certificates

MEDICAL INSURANCE DATA INDEXER (link)
- Formulated a containerized medical insurance indexing system in Go fortified with **OAuth 2.0** Authentication and **Elasticsearch** for quick lookup of insurance plans.
- Leveraged **RabbitMQ** exchange based message queues for simultaneous data feed to **Redis, MongoDB and Elasticsearch** alleviating potential server bottlenecks leading to decoupling and increased system concurrency.

SEMANTIC SEGMENTATION FOR AUTONOMOUS DRIVING (Developed and implemented Deep CNN architectures to partition roadside images, improving accuracy by 15% and reducing misclassifications by 20% on the Indian Driving Dataset (IDD))