Dhaka, Bangladesh
[Github](#) [Linkedin](#) [Portfolio](#)

Sagore Sarker

(+880) 16263 04354
sagoresarker.cse@gmail.com

As a Backend Engineer, I specialize in architecting and optimizing data-intensive distributed systems that operate at scale. My passion lies in designing resilient backend solutions and tackling complex distributed computing challenges, from ensuring data consistency to optimizing system performance in large-scale deployments.

Work Experience

Junior Backend Engineer   **Poridhi.io**   **Dec 2023 - Present**
DevOps Team   Dhaka, Bangladesh

- Developed and implemented comprehensive DevOps solutions for customer microservice applications, adhering to GitOps principles.
- Deployed all services on Kubernetes clusters, configured horizontal pod autoscaling, and managed cluster secrets from scratch on bare metal.
- Ensured robust CI/CD pipelines using on-premise solutions for continuous integration, maintaining security best practices.
- Utilized ArgoCD for continuous deployment, set up NGINX-Ingress for traffic management, and exposed services externally via Cloudflare Tunnel.

Engineering Team

- Built a Kubernetes playground leveraging Firecracker microVMs and software-defined networking.
- Designed and maintained high-availability systems through a distributed architecture using gRPC.
- Focused on backend engineering, implementing scalable and resilient backend solutions.
- Developed and maintained a Pub/Sub architecture with Redis queues.
- Implemented both software and database level state machine-based systems.

Personal Projects

- **Memcached Operator Tools: Golang, Kubebuilder**   **[Github Link](#)**
  - Developed a Kubernetes Operator in Go. Engineered a Kubernetes Operator to automate the deployment and management of Memcached clusters, enhancing scalability and automation within cloud environments.
  - Custom Resource Definitions (CRD) Implementation: Extended Kubernetes API with CRDs for managing Memcached configurations, allowing users to define and adjust their caching strategies declaratively.
- **Distributed Task Queue System in Golang**   **[Github Link](#)**
  - Task Coordination: Utilizes a coordinator service to manage and distribute tasks across multiple worker nodes.
  - Dynamic Configuration: Supports dynamic configuration of the coordinator service port through command-line flags.
  - Database Integration: Integrates with a database to fetch connection strings, facilitating task persistence and state management.
  - Robust Task Handling: Capable of handling various task states such as queued, started, completed, and failed, ensuring comprehensive task lifecycle management.

- **Rate-Limited Calculator Service Using Go and Redis**   [Github Link](#)
    - o Rate Limiting: Implements a sliding window rate limiting algorithm to manage the number of requests a user can make within a specified time frame, using Redis for efficient storage and retrieval of request timestamps.
    - o RESTful API: Provides a REST API endpoint /calculate that supports various mathematical operations such as addition, subtraction, multiplication, division, modulo, power, and factorial
    - o Error Handling: Robust error handling to manage and respond to issues such as rate limit exceedance, Redis connection failures, and invalid mathematical operations (like division by zero).
    - o Unit Testing: The project includes unit tests for critical components such as the rate limiter and the mathematical operations of the calculator.
- **Real-Time Event Processing System with Redis Pub/Sub in Go**   [Github Link](#)
    - o Event-Driven Architecture: Utilizes the publish-subscribe pattern to handle real-time data processing, enhancing the system's responsiveness and scalability.
    - o Redis Integration: Leverages Redis as a message broker to efficiently distribute messages across different components of the application.
    - o Real-Time Notifications: Implements subscribers that listen to specific Redis channels for events like user creation or order updates, enabling real-time notifications and actions.

Technologies and Languages

- **Languages**:   Go, Python3, Bash, C++
- **Databases**:   MySQL, PostgreSQL, MongoDB, Redis
- **Technologies**: OpenTelemetry, Kubernetes, Docker, Git, ArgoCD, NGINX, Prometheus, Grafana
- **Other**:   Data structures and algorithms, software-defined networking, distributed systems, microservices architecture, CI/CD pipelines, high availability systems, performance tuning

Education

- **B.Sc. Computer Science and Engineering,** Jashore University of Science and Technology. **2019 – 2024**

Certifications and Courses

- Fundamental of Backend Engineering (**Udemy**, Instructor: **Hussain Nasser**)
- Fundamental of Network Engineering (**Udemy**, Instructor: **Hussain Nasser**)
- Fundamental of Operating System (**Udemy**, Instructor: **Hussain Nasser**)
- System Expert (**Algoexpert**)

Reference

Badhan Sen
University College Dublin, Research Assistant
(Software Engineer)

Former Senior Software Engineer
Samsung Electronics Bangladesh
Email: badhan.cse@gmail.com

Atish Kumar Dipongkor
Assistant Professor (On Leave)
Jashore University of Science and Technology

Former Senior Software Engineer,
Brain Station 23 Limited
Email: atish.cse@just.edu.bd