ABDULLAH AL MARUF

SOFTWARE ENGINEER

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🌐 https://the-redback.com
📍 Austin, TX, USA

👤 PROFILE

Passionate Software Engineer with **7 years** of experience developing **Kubernetes** tools in **Go** and building cloud-native infrastructure using **Infrastructure as Code (IaC)** with **Terraform**, Helm, and ArgoCD across **AWS** and **Azure**. Skilled in backend development with **Java** and algorithmic problem solving in **C++**. Led the KubeDB project at AppsCode and contributed to open-source tools.

💼 EXPERIENCE

Software Engineer II
ZEISS Medical Technology

📅 *Oct, 2022 - Present*
📍 *Temple, TX, USA*

- ➤ Collaborated with cross-functional teams to analyze and design high-level system architecture.
- ➤ Migrated software and infrastructure from **AWS ECS** to Kubernetes on **Azure AKS**, achieving **~3x faster** system performance.
- ➤ Designed and implemented infrastructure as code (IaC) with Terraform, **Helm**, and **ArgoCD**, with monitoring and alerting via **Prometheus** and Grafana.
- ➤ Refactored **backend** services in **Nodejs** to seamlessly integrate with AWS and Azure resources, unifying the codebase for cloud-agnostic and scalable development.

Intern
Red Hat

📅 *Summer 2021, 2022*
📍 *Brno, CZ (Remote)*

- ➤ Led a small team of students to conduct research on technical debt and microservice anti-patterns.
- ➤ Performed literature mapping study on technical debt and code smells.
- ➤ Technologies: Java, Spring Boot, Git.

DevOps Engineer
Grameen Digital Health

📅 *Feb, 2020 - Dec, 2020*
📍 *Dhaka, Bangladesh*

- ➤ Designed and migrated **scalable** cloud infrastructure to Kubernetes, ensuring high availability and resilience.
- ➤ Managed hybrid cloud infrastructure consisting of AWS and on-premises **OpenStack**, implementing automation pipelines for deployment and scaling.
- ➤ Optimized **CI/CD** workflows using Terraform, **Ansible**, **Jenkins**, and Docker, improving deployment consistency and reducing manual effort.
- ➤ Improved service **auto-scaling**, reducing infrastructure costs by **~25%**.
- ➤ Implemented monitoring, logging, and alerting pipelines using Prometheus and Grafana, enhancing system reliability and observability.

Software Engineer
AppsCode Ltd.

📅 *May, 2017 - Jan, 2020*
📍 *Dhaka, Bangladesh*

- ➤ Developed Kubernetes controller tools in **Go** and Docker to extend Kubernetes functionality.
- ➤ Designed and implemented KubeDB, a Kubernetes-native, cloud-agnostic database management tool built to operate consistently across GCP, AWS, and Azure Kubernetes clusters.
- ➤ Led a 5-member team to build core KubeDB features, improving reliability and increasing returning users by **~200%**.
- ➤ Enhanced **MongoDB**, **Elasticsearch**, and **PostgreSQL** clustering support.

EDUCATION

Baylor University
M.S. in Computer Science

Chittagong University of Engineering & Technology
B.Sc. in Computer Science & Engineering

PROUD OF

Competitive Programming
• Solved **1100+** problems on different Online Judges.
• **Divisional Champion** of ACM ICPC Dhaka Regional '14 & '15.

Open Source Participation
User, follower, and contributor.

Research
Authored multiple journal papers with 500+ citations.

KubeDB's growth
From very few to thousands of daily users.

Leadership
Served as President of Cuet Computer Club. Also acted as team lead of KubeDB.

FIND ME ONLINE

TECHNICAL SKILLS

`GO` `Java` `C++` `TypeScript` `Python` `Terraform`

`Kubernetes` `Docker` `Helm` `ArgoCD` `Linkerd` `Istio`

`Azure` `AWS` `GCP` `Linux` `Bash` `Microservices`

`PostgreSQL` `MySQL` `MongoDB` `RabbitMQ` `Kafka`

`Prometheus` `Grafana` `Github Actions` `Ansible` `CI/CD`

TOP PROJECTS

KubeDB
🔗 https://kubedb.com

Database management solution for Kubernetes to automate database provisioning, backup, recovery, and failover.

➤ Led the team to design & implement the core features.
➤ Designed and implemented MongoDB clustering system support.
➤ Improved PostgreSQL and Elasticsearch clustering system.
➤ Worked with Prometheus exporters to export database metrics.

Stash
🔗 https://stash.run

Backup automation tool for Kubernetes. Under the hood, it uses **Restic** for backup/restore purposes.

➤ Improved database backup system using stash.
➤ Designed and implemented Elasticsearch and MongoDB cluster backup system from scratch.
➤ Integrated Stash support within Kubedb to backup/restore dbs.

ScholarScope

A team-management project that uses machine learning to do an automatic literature review. It identifies relevant research papers that correspond to particular research questions.

➤ The backend was built with **Java Spring Boot** and **Python**, and the frontend was built with ReactJS.
➤ Followed cloud-native best practices to develop and deploy the microservices.

Microservice Architecture (MSA) Reconstruction

➤ Software architecture reconstruction (SAR) from tracing log.
➤ Automatically detection of anti-patterns from SAR.
➤ Used **Istio** to collect the tracing log, **Java** to process it, and Graphviz to generate the architecture graph.