# ABDULLAH AL MARUF

#### SOFTWARE ENGINEER

"Do not fear failure but rather fear not trying"

- Roy T. Bennett



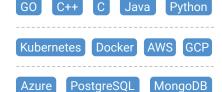
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- https://maruftuhin.com
- Waco, TX, USA

#### **EDUCATION**

M.S. in Computer Science **Baylor University** Session 2020-2022(December)

B.Sc. in Computer Science & Engineering Chittagong University of **Engineering & Technology** Session 2012-2017

# TECHNICAL SKILLS



Bash

**Cloud Native** 

Spring Boot Distributed Systems

**STRENGTHS** 

Linux

Team Work Self Learning

Communication Optimist

Problem Solving

#### PROFILE

Passionate software engineer with 4 years of software development experience in Go, Java, and C++. Also worked as a DevOps Engineer for a year to gain hands-on experience of the infrastructure. Acted as team lead of AppsCode's KubeDB project. Love to participate in programming contests. An enthusiastic team player.

#### EXPERIENCE

#### Graduate Research Assistant

#### **Baylor Cloudhubs Lab**

https://github.com/cloudhubs

- > Performed analysis on telemetry log tracing to reconstruct Microservice architecture and service dependency graph (SDG).
- Developed tools for automated microservice anti-pattern detection from runtime analysis.
- > Technology Used: Java, Spring Boot, Docker, Kubernetes, Istio.

#### Intern

#### **Red Hat**

Prno, CZ (Remote)

Jan, 2021 - Present

♥ Waco, TX, USA

- https://research.redhat.com
- > Led a small team of undergraduate students to conduct research on technical debt and visualization of microservices anti-patterns.
- Analyzed version controlled codebase to find probable code debts.
- > Performed literature review study on technical debt and code smells.
- > Technology Used: Java, Spring Boot, Git.

#### DevOps Engineer

#### **Digital Healthcare Solutions**

♥ Dhaka, Bangladesh

https://dh.health

Formerly known as Telenor Health. DH makes high quality health services and health financing accessible for all.

- > Assisted on the deployment & migration of the scalable cloud infrastructure to Kubernetes.
- > Collaborated with multiple teams to design scalable software systems.
- > Improved service auto-scaling, which reduced the server's financial cost by
- > Exercised cloud-native best practices for DevOps automation, deployment, monitoring, and alerting.
- Technology Used: AWS, Kubernetes, Ansible, Terraform, Docker, Docker Compose, Traefik, Nginx, HAProxy, Prometheus, etc.

# PROUD OF

#### Competitive Programming

- Solved **1100+** problems on different Online Judges.
- Divisional Champion of ACM ICPC Dhaka Regional '14 & '15.
- Open Source ParticipationUser, follower, and contributor.

#### **KubeDB's growth**

From very few to thousands of daily users.

#### **iii** Leadership

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

# TOP OPEN SOURCE CONTRIBUTION

kubernetes/kubernetes Production-Grade Container Orchestration.

#### kubedb

Database management tool for Kubernetes.

#### stash

Backup and restore plugin for Stash.

# kmodules/client-go Kubernetes client-go utilities

# appscode/analytics

Essential analytics for OSS

# Find me online

- in linkedin.com/in/maruftuhin
- github.com/the-redback
- stackoverflow.com/u/4628962
- twitter.com/maruf2hin
- https://maruftuhin.com
- codeforces.com/profile/ the\_redback

## EXPERIENCE

# Software Engineer

AppsCode Ltd.

https://appscode.com

■ May, 2017 - Jan, 2020Polaka, Bangladesh

A platform for automating the deployment, scaling, and management of containerized applications.

- > Developed Kubernetes controller tools to utilize Kubernetes services.
- Design and development of KubeDB project, A database management tool for Kubernetes.
- > Led team members to design and implement the core features of KubeDB.
- ➤ Improved the reliability of the KubeDB application, which resulted in a ~200% increase in returning users.
- > Used: Go, Kubernetes, Docker, MongoDB, Elasticsearch, GCP, AWS, Azure.

### TOP PROJECTS

#### KubeDB

https://kubedb.com

A cloud-native database management solution for Kubernetes to simplify and automate **provisioning**, **backup**, **recovery**, **failure detection** for various popular databases.

- > Led a team of four members to design & implement the core features.
- > Added support for four new databases from scratch.
- > 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

A volume backup tool designed 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.

### BearMapping

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.