# ABDULLAH AL MARUF

## SOFTWARE ENGINEER

## LIFE PHILOSOPHY

#### "Do not fear failure but rather fear not trying - Roy T. Bennett

#### CONTACT

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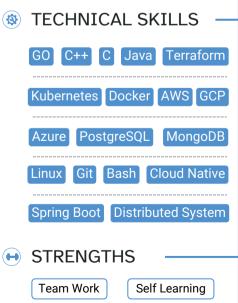
#### EDUCATION

### M.S. in Computer Science **Baylor** University

B.Sc. in Computer Science

## & Engineering

Chittagong University of Engineering & Technology



Optimist

Communication

**Problem Solving** 

## PROFILE

Passionate software engineer with 6+ years of software development experience in Go, Java, and C++. Also worked as a DevOps Engineer 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

### Software Engineer

#### ZEISS Medical Technology

📾 Oct, 2022 - Present Temple, TX, USA

- Collaborated with cross-functional teams to migrate software and infrastructure from AWS ECS to Kubernetes and Azure.
- Developed and optimized applications for seamless Kubernetes integration while preserving backward compatibility.
- Developed automation tools to streamline the migration process.
- Technology Used: TypeScript, Terraform, Kubernetes, Docker, AWS, Azure.

### Intern

### Red Hat

## > Led a small team of undergraduate students to conduct research on technical debt visualization of microservice anti-patterns.

- Analyzed version controlled codebase to find probable code debts.
- > Performed literature mapping study on technical debt and code smells.
- > Technology Used: Java, Spring Boot, Git.

### **DevOps Engineer**

#### Grameen Digital Health

🛗 Summer 2021, 2022

Brno, CZ (Remote)

- Assisted on the deployment & migration of the scalable cloud infrastructure to Kubernetes.
- Collaborated with multiple teams to design scalable software.
- Improved service auto-scaling, which reduced the server's financial cost by ~25%.
- 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.

📾 Feb, 2020 - Dec, 2020

Ohaka, Bangladesh

## 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 250+ citations.

#### **M** 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

### FIND ME ONLINE

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- in linkedin: maruftuhin
- G github: <u>the-redback</u>
- stackoverflow: <u>4628962</u>
- scholar: <u>Prun7T8AAAAJ</u>
- II codeforces: the redback

## EXPERIENCE

#### Software Engineer

AppsCode Ltd.

#### <u>https://appscode.com</u>

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**

<u>https://kubedb.com</u>

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.
- > Designed and implemented MongoDB clustering system support.
- > Improved **PostgreSQL** and **Elasticsearch** clustering system.
- Worked with **Prometheus** exporters to export database metrics.

#### Stash

<u>https://stash.run</u>

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.

#### **Bear Mapping**

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.

# Feb, 2020 - Dec, 2020Dhaka, Bangladesh