

Muhammad Haris

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Skills

Languages: Go • Python • C++ • C • TypeScript • JavaScript • Java • Bash • PHP • SQL

Technologies: MongoDB • Kafka • gRPC • Node.js • React.js • Angular • Spring • Salesforce

Infrastructure: Docker • Kubernetes • Helm • Nginx • Jenkins • Bazel • Terraform • Datadog • Elasticsearch • Kibana

AWS: EC2 • EKS • ECS • S3 • Glacier • Lambda • Route53 • SQS • SNS • CloudWatch • Kinesis • Redshift • IAM

Experience

Google Software Engineer Intern

Mountain View, June '20 – Sept '20

- Contributed features, enhancements, and fixes to **Shaka Player**, an open-source library for adaptive media playback on the web
- Developed an MP4 parser and packet decoder in **JavaScript** to parse **closed captions** embedded in **H.264** video streams, thereby eliminating the need for a third-party library, reducing build size by **19.2%**, and cutting load time by **2.4 seconds**
- Integrated this feature with **Chromecast**, improving playback on **55 million+** devices, and aiding users with hearing impairment

TextNow Software Engineer Intern

Waterloo, Sept '19 – Dec '19

- Developed an **FFmpeg** media transcoding service in **Go** that handles **65,000+** CPU-intensive requests per day, replacing AWS Elastic Transcoder in the MMS messaging pipeline and reducing costs by **\$120,000/year**
- Productionized the service with **Kubernetes** in **EKS**, provisioned **AWS** with **Terraform**, and analyzed traces/metrics in **Datadog**
- Integrated spam detection on the inbound messaging pipeline using **Go** and **Apache Kafka** to reduce spam traffic by **25%**
- Implemented a service in **Go** and **gRPC** that authenticates internal clients to the TextNow API with OAuth 2.0

Bonfire Ltd. Software Engineer Intern

Waterloo, Jan '19 – May '19

- Developed a service in **Go** and **AWS Lambda** to auto-archive support logs to **AWS S3 Glacier**, saving **250** worker-hours/week
- Created RESTful routes, access control policies, and handlers in **Node.js** using the Hapi.js framework to aid bidding features
- Automated database migrations in **Jenkins** CI/CD pipeline during **Kubernetes** deployments, maintaining database consistency

Stratus360 Inc. Software Engineer Intern

Toronto, May '18 – Aug '18

- Developed a Salesforce-based web app in **Lightning** and **Angular** to synchronize Salesforce and Google Drive data
- Implemented **Redis** caching for a dynamic Salesforce form-builder in Apex to reduce average database query time by **85%**
- Authored and productionized a REST API in **Spring Boot** to convert DOCX to PDF, servicing **20,000+** conversions a day

Projects

AMQP Message Broker – Go, gRPC, Redis, Docker

- Developed in Go with gRPC server-side streaming, and managed messaging queues and consumer groups with Redis Streams

Real-Time Operating System – C, ARM Assembly

- Developed a RTOS kernel from scratch for a Keil MCB1700 board, designed to run user and system-level processes in real-time

Education

University of Waterloo: Candidate for Bachelor of Software Engineering

2017 – 2022