

Kowshik Islam

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Experience

Software Engineer, Co-Creator, Herald [🔗](#) 01-2023 – Present | Remote

Herald is an open-source observability solution built using the ELK (Elasticsearch, Logstash, Kibana) suitable for varying application scales. It fills the gap for needing a freely accessible, easily deployable, scalable, and robust monitoring tool for distributed applications. Herald provides an intuitive interface for developers to proficiently manage telemetry data essential for monitoring system health and performance.

- Engineered the automatic provisioning and deployment of an observability pipeline, condensing a complex multi-application deployment (Elasticsearch, Logstash, Kibana, Fleet Server) into just a few simple steps.
- Designed and implemented a microservice architecture using AWS Cloud Development Kit (CDK).
- Abstracted application components and services into custom CDK constructs for deployment on AWS resources.
- Architected a multi-cluster, autoscaling Elasticsearch service, ensuring real-time data ingesting and indexing even under 100x normal load.
- Implemented infrastructure for automated certificate generation to enable TLS encryption across all application services.
- Containerized applications and solved complex configuration issues by building custom Docker images.
- Created CLI to facilitate set-up, configuration, deployment, and tear-down of the Herald application.
- Authored a comprehensive case study discussing the use case, design decisions, and implementation challenges of building Herald (<https://herald-app.github.io>). [🔗](#)
- Collaborated with a remote team of 4 developers across three time zones using an agile workflow.

Software Engineer, Open Source Projects 01-2021 – 12-2022 | Remote

- Panicbin: A real-time tool for receiving and monitoring webhooks (DigitalOcean Droplet, Express.js, Material UI, MongoDB, Nginx, Node.js, PM2, PostgreSQL, React).
- ForecastEngine: A predictive sales model for Big Mart using Python (SkLearn, Numpy), incorporating automated data processing and prediction pipelines to facilitate rapid experimentation and model tweaking.

Mechanical Engineer, OFGO Studio 02-2019 – Present | Vaughn, Canada

Developed a VB.NET/C# solution to convert customer orders into automated production of CAD models from templates, enabling error-free, precise product manufacturing

- Architected a Distributed Task Scheduler System, incorporating components such as Task Creator, Relational Database, and Distributed Messaging Queue, enabling efficient parallelization and optimal allocation of tasks across multiple worker nodes
- Automated the conversion of intricate customer orders into actionable parameters, streamlining the end-to-end manufacturing workflow.
- Incorporated robust logging and instant notifications to ensure seamless operations and quick issue resolutions.

Languages and Technologies

Languages & Frameworks

JavaScript, Node.js, Python, C#, TypeScript, Java, Express, React, SQL, HTML, CSS

Cloud Technologies

AWS CDK, ECS, EC2, Fargate, IAM, EFS, VPC, Lambda, CloudWatch, Cloud Map

Other Technologies

PostgreSQL, MongoDB, SQLite, Git, Docker, RESTful APIs, Nginx

Education

BSc in Computer Science, 09-2020 – 06-2022 | Toronto, Canada

Toronto Metropolitan University (Formerly Ryerson University)

Completed first two years with CGPA 4.22/4.33

BEng in Mechanical Engineering, 09-2011 – 06-2016 | Toronto, Canada

Toronto Metropolitan University (Formerly Ryerson University)