

Kowshik Islam

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Experience

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

Herald is an open-source observability solution for distributed applications, encompassing metrics, traces, and logs. Built upon the robust ELK Stack (Elasticsearch, Logstash, and Kibana), Herald prioritizes scalability, ensuring that it accommodates a team's growing application performance monitoring needs.

- 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.
- SwiftTrolley: Node.js, Express, MongoDB, and React-based e-commerce app.
- TaskMinder: Node.js and Express.js task organizer.

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

- Developed a dual-service distributed application, tactically utilizing company-wide resources. This application automated the customization of parametric CAD models and manufacturing documentation generation based on varied ERP inputs, circumventing the need for manual input handling. This strategic automation led to a significant 50% reduction in overall product development time.
- Engineered an intelligent, user-friendly parts library of 100+ items, optimizing CAD assembly with dynamic behavior based on environmental conditions. This innovation streamlined the design process, achieving a 25% time efficiency for designers.
- Developed a Python (NumPy, Pandas) application to transform 100,000+ rows of data sets for ERP systems.
- Created a barcode-based application to simplify parts replacement requests, improving operational efficiency.

Languages and Technologies

Languages & Frameworks

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

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, Toronto Metropolitan University

09-2020 – Present | Toronto, Canada

BEng in Mechanical Engineering, Toronto Metropolitan University

09-2011 – 06-2016 | Toronto, Canada