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, *Self-Employed* 01-2021 – 12-2022 | Remote

Developed open-source web applications with technologies such as Node.js, PostgreSQL, React, JavaScript, HTML, and CSS. Some highlighted projects include:

- Panicbin: a real-time tool for receiving and monitoring webhooks (DigitalOcean Droplet, Express, Material UI, MongoDB, Nginx, Node.js, PM2, PostgreSQL, React).
- TaskMinder: A task management application developed using vanilla JavaScript for the frontend and Node.js/Express for the backend, designed to track and organize personal tasks efficiently.
- 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

- Designed and built six desktop applications using VB.NET, C#, and Python and integrated them with existing infrastructure resulting in an end-to-end product development time improvement of at least 50%.
- Mentored and trained junior engineers.

Languages and Technologies

Back End
Node.js, Express, Python, C#, Java, RESTful APIs

Front End
HTML, CSS, JavaScript, TypeScript, React, jQuery

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

Databases
PostgreSQL, MongoDB, SQLite

Other
Git, Docker

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