Kowshik Islam

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Experience

Software Engineer, Co-Creator, *Herald* ⬀   01-2023 – Present │ Remote

Herald is an open-source observability solution conceived to bridge the gap for a freely accessible, easily deployable, scalable, and robust monitoring tool for distributed applications. Leveraging the power of the ELK Stack (Elasticsearch, Logstash, and Kibana), Herald delivers scalability and efficiency, adeptly handling multi-cluster environments to meet escalating 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

- Designed an innovative VB.NET/C# dual-service distributed application that revolutionized ERP-driven CAD customizations and automated production document creation, significantly accelerating product development speed. This system's efficiency and practical innovation significantly outperformed the performance of similar systems in larger companies, solidifying OFGO's competitive advantage in the industry.
- Engineered an advanced parts library with 100+ items, providing an intuitive interface for product design. This system significantly reduced design time and errors whilst boosting output quality.
- Developed a Python (NumPy, Pandas) application to transform 100,000+ rows of data sets for ERP systems.

Languages and Technologies

Languages & Frameworks	**Cloud Technologies**	**Other Technologies**
Node.js, Express, Python, C#, Java, HTML, CSS, JavaScript, TypeScript, React, SQL	AWS CDK, ECS, EC2, Fargate, IAM, EFS, VPC, Lambda, CloudWatch, Cloud Map	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