KRIS LAI

Senior Software Engineer

@ kriskirla@gmail.com   📞 6478688606   🔗 laikris   kriskirla   🌐 kriskirla.github.io

SKILLS

Python | Java | C
C++ | C# | Golang
Haskell | Scheme
JavaScript | React
Angular | Django
Spring Boot | PHP
HTML5

REST API | GraphQL

Jenkins | Harness
Cloudbees | Docker

Git | BitBucket
SVN | ClearCase

CLOUD

AWS

DATABASE

DynamoDB | Db2
Postgres | InfluxDb
MongoDb | MySQL

LANGUAGES

English: Native

Cantonese: Native

Mandarin: Working Proficiency

EXPERIENCE

Senior Software Engineer | Morningstar, Inc 📅 Jan 2022 – Present

- Software architect, C# backend engineer, and DevOps lead for Scenario Builder, a core analytics service in the Morningstar Workstation Platform supporting large-scale portfolio analysis.
- Designed a scalable, resilient, cross-zone/region microservices architecture using Amazon ECS with Docker.
- Led cloud migration from on-prem, adopting event-driven, serverless designs with AWS Step Functions, Lambda, and S3.
- Implemented automated monitoring with EventBridge, SNS, and integrated SonarQube and Checkmarx to meet SOC 2 compliance.
- Developed a serverless investment analytics engine in .NET to compute portfolio risk scores at scale with API Gateway, Lambda, DynamoDB, and Fargate for high performance and efficiency.
- Designed a disaster recovery strategy with Route 53, ALB, global DynamoDB, and S3 replication for enterprise-grade failover.
- Deployed infrastructure via Terraform and built an automated API validation system (Lambda, SQS, CloudWatch) to test millions of portfolios continuously.

Full Stack Software Engineer | Peak Power Inc 📅 Jul 2020 – Jan 2022

- Full stack development on a web service which customer uses to gain analytical insights on their building such as energy usage, occupancy, and climate settings. Frontend developed using Angular with Spring Boot. Utilized Python, Java, and PHP as backend services to collect and interact with information from Energy Storage and Building Sensors. Server hosted on AWS and rerouting traffic using Elastic Load Balancer.
- Designed and implemented a multi-threaded Java driver with OOP to establish parallel connections and setup communications between software and IOT devices across North America. The driver decreased latency by 500% between sending and receiving data compared to previous workflow and reduced maintenance/deployment cost exponentially.
- Setup Kafka in Python to stream and process raw sensors data, filtering noise and storing clean data. Designed an automated alerts service with sensors data.
- Containerized backend API with Docker, and error tracking with Sentry and Datadog.

Software Development Team Lead | IBM 📅 Feb 2019 – Jul 2020

- Pioneered Project ARBIT to create a standalone service that automates the process of investigating failures within Db2. The API is built on top of Python and Golang, containerized as a RESTFUL service using Docker.
- ARBIT reduced the company's employee cost by around $1 million per year
- Led Db2's functional verification team of 11 developers and QAs, to ensure Db2 transitions from development to production stage with efficiency and minimal errors in every components.

CERTIFICATIONS

- AWS Certified Solutions Architect - Associate | AWS 📅 Nov 2022 - Nov 2025
- Enterprise Design Thinking - Team Essentials for AI | IBM 📅 Jun 2019
- Enterprise Design Thinking Co-Creator | IBM 📅 Jun 2019

EDUCATION

Bachelor of Science (B.Sc.) | University of Toronto 📅 2013 – 2018

- Computer Science - Specialist in Software Engineering